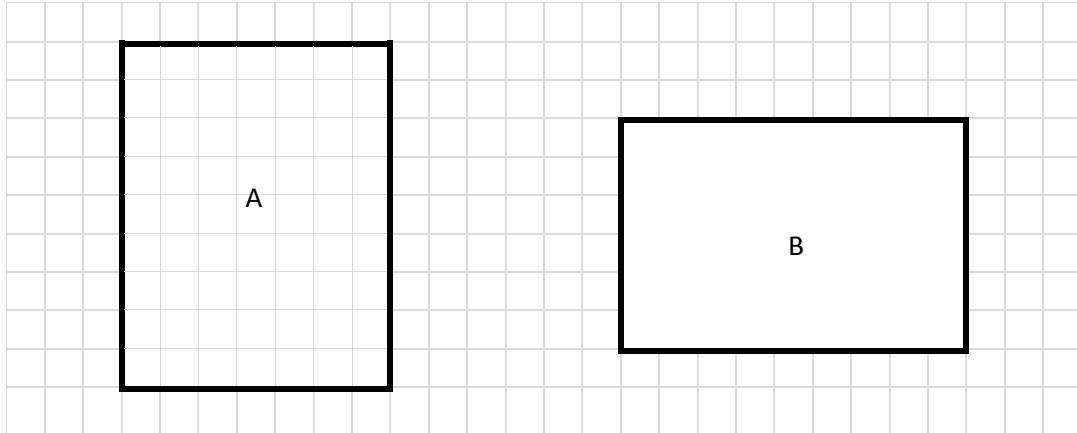Name _____   Date _____

1. Determine the perimeter and area of rectangles A and B.

A = _____

P = _____

A = _____

P = _____

2. Determine the perimeter and area of each rectangle.
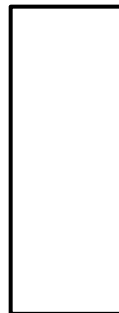
a.

6 cm

5 cm

P = _____

A = _____

b.

3 cm

8 cm

P = _____

A = _____

3. Determine the perimeter of each rectangle.
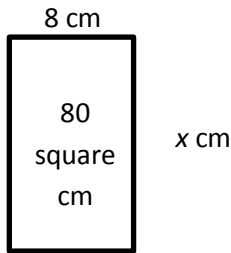
a.

166 m

99 m

P = _____

b.

1 m 50 cm

75 cm

P = _____

4. Given the rectangle's area, find the unknown side length.

a.

8 cm

| 80 square cm | x cm |

$x =$ _____

b.

7 cm

| 49 square cm | x cm |

$x =$ _____
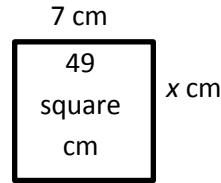
5. Given the rectangle's perimeter, find the unknown side length.

a. P = 120 cm   20 cm

x cm

$x =$ _____

b. P = 1,000 m

x m

250 m

$x =$ _____

6. Each of the following rectangles has whole number side lengths. Given the area and perimeter, find the length and width.

a. P = 20 cm

l = _____

| 24 square cm |

w = _____

b. P = 28 m

w = _____ | 24 square m |

l = _____
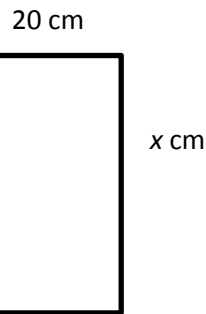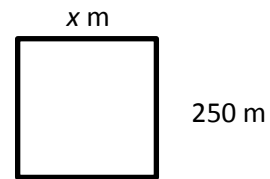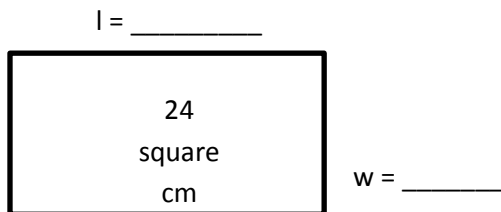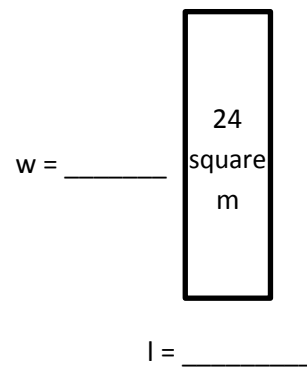
Name _____   Date _____

1. A rectangular porch is 4 feet wide. It is 3 times as long as it is wide.

   a. Label the diagram with the dimensions of the porch.

   b. Find the perimeter of the porch.

2. A narrow rectangular banner is 5 inches wide. It is 6 times as long as it is wide.

   a. Draw a diagram of the banner and label its dimensions.

   b. Find the perimeter and area of the banner.

3. The area of a rectangle is 42 square centimeters. Its length is 7 centimeters.

   a. What is the width of the rectangle?

   b. Charlie wants to draw a second rectangle that is the same length but is 3 times as wide. Draw and label Charlie's second rectangle.

   c. What is the perimeter of Charlie's second rectangle?

4. The area of Betsy's rectangular sandbox is 20 square feet. The longer side measures 5 feet. The sandbox at the park is twice as long and twice as wide as Betsy's.

   a. Draw and label a diagram of Betsy's sandbox. What is its perimeter?

   b. Draw and label a diagram of the sandbox at the park. What is its perimeter?

Lesson 2: Solve multiplicative comparison word problems by applying the area and perimeter formulas.
Date: 8/28/13

engage^{ny} 3.A.25

c. What is the relationship between the two perimeters?

d. Find the area of the park's sandbox using the formula A = $l \times w$.

e. The sandbox at the park has an area that is how many times that of Betsy's sandbox?

f. Compare the way the perimeter changed with the way the area changed between the two sandboxes. Explain what you notice using words, pictures, or numbers.

COMMON CORE

Lesson 2: Solve multiplicative comparison word problems by applying the area and perimeter formulas.

Date: 8/28/13

engage^ny

3.A.26

Name _____   Date _____

Solve the following problems. Use pictures, words, or diagrams to help you solve.

1. The projection screen in the school auditorium is 5 times as long and 5 times as wide as the screen in the library. The screen in the library is 4 feet long with a perimeter of 14 feet. What is the perimeter of the screen in the auditorium?

2. The width of David's tent is 5 feet. The length is twice the width. David's rectangular air mattress measures 3 feet by 6 feet. If David puts the air mattress in the tent, how many square feet of floor space will be available for the rest of his things?

3. Jackson's bedroom has an area of 90 square feet. The area of his bedroom is 9 times that of his closet. If the closet is 2 feet wide, what is its length?

4. The length of a rectangular deck is 4 times its width. If the deck's perimeter is 30 feet, what is the deck's area?

COMMON CORE

Lesson 3: Demonstrate understanding of area and perimeter formulas by solving multi-step real world problems.

Date: 8/28/13

engage^ny   **3.A.39**

Name _____   Date _____

Example:

$5 \times 10 =$ ___50___

$5 \text{ ones} \times 10 =$ ___5 tens___

thousands	hundreds	tens	ones

Draw number disks and arrows as shown to represent each product.

1. $5 \times 100 =$ _____

   $5 \times 10 \times 10 =$ _____

   $5 \text{ ones} \times 100 =$ ____ _____

thousands	hundreds	tens	ones

2. $5 \times 1{,}000 =$ _____

   $5 \times 10 \times 10 \times 10 =$ _____

   $5 \text{ ones} \times 1{,}000 =$ ____ _____

thousands	hundreds	tens	ones

3. Complete the following equations.

   a. $6 \times 10 =$ _____

   b. _____ $\times 6 = 600$

   c. $6{,}000 =$ _____ $\times 1{,}000$

   d. $10 \times 4 =$ _____

   e. $4 \times$ _____ $= 400$

   f. _____ $\times 4 = 4{,}000$

   g. $1{,}000 \times 9 =$ _____

   h. _____ $= 10 \times 9$

   i. $900 =$ _____ $\times 100$

Lesson 4: Interpret and represent patterns when multiplying by 10, 100, and 1,000 in arrays and numerically.
Date: 8/28/13

engage^{ny}   3.B.9

Draw number disks and arrows as shown to represent each product.

4. 12 × 10 = _____

thousands	hundreds	tens	ones

(1 ten 2 ones) × 10 = _____ _____

5. 18 × 100 = _____

18 × 10 × 10 = _____

(1 ten 8 ones) × 100 = _____ _____

thousands	hundreds	tens	ones

6. 25 × 1,000 = _____

25 × 10 × 10 × 10 = _____

(2 tens 5 ones) × 1,000 = _____ _____

ten thousands	thousands	hundreds	tens	ones

Decompose each multiple of 10, 100, or 1,000 before multiplying.

7.   3 × 40 = 3 × 4 × _____

        = 12 × _____

        = _____

8.   3 × 200 = 3 × _____ × _____

         = _____ × _____

         = _____

9.   4 × 4,000 = _____ × _____× _____

        = _____ × _____

        = _____

10. 5 × 4,000 = _____ × _____ × _____

         = _____ × _____

         = _____

Lesson 4:   Interpret and represent patterns when multiplying by 10, 100, and 1,000 in arrays and numerically.
Date: 8/28/13

engage^ny

3.B.10

Name _____   Date _____

Draw number disks to represent the value of the following expressions.

1. 2 × 3 = _____

    2 times _____ ones is _____ ones.

$$\begin{array}{r} 2 \\ \times\ 3 \\ \hline \end{array}$$

2. 2 × 30 = _____

    2 times _____ tens is _____ _____.

$$\begin{array}{r} 3\,0 \\ \times\quad 2 \\ \hline \end{array}$$

3. 2 × 300 = _____

    2 times _____ _____ is _____ _____ .

$$\begin{array}{r} 3\,0\,0 \\ \times\quad 2 \\ \hline \end{array}$$

4. 2 × 3,000 = _____

    _____ times _____ _____ is _____ _____ .

$$\begin{array}{r} 3{,}0\,0\,0 \\ \times\qquad 2 \\ \hline \end{array}$$

Lesson 5:   Multiply multiples of 10, 100, and 1,000 by single digits, recognizing patterns.

Date: 8/28/13

engage^{ny}   3.B.19

5. Find the product.

a. 20 × 7 =	b. 3 × 60 =	c. 3 × 400 =	d. 2 × 800 =
e. 7 × 30 =	f. 60 × 6 =	g. 400 × 4 =	h. 4 × 8,000 =
i. 5 × 30 =	j. 5 × 60 =	k. 5 × 400 =	l. 8,000 × 5 =

6. Brianna buys 3 packs of balloons for a party. Each pack has 60 balloons. How many balloons does Brianna have?

7. Jordan has twenty times as many baseball cards as his brother. His brother has 9 cards. How many cards does Jordan have?

8. The aquarium has 30 times as many fish in one tank as Jacob has. The aquarium has 90 fish. How many fish does Jacob have?

Lesson 5:   Multiply multiples of 10, 100, and 1,000 by single digits, recognizing patterns.

Date: 8/28/13

engage^{ny}

3.B.20

Name _____   Date _____

Represent the following problem by drawing disks in the place value chart.

1. To solve 20 × 40, think:

   (2 tens × 4) × 10 = _____

   20 × (4 × 10) = _____

   20 × 40 = _____

Hundreds	Tens	Ones

2. Draw an area model to represent 20 × 40.

   2 tens × 4 tens = _____ _____

3. Draw an area model to represent 30 × 40.

   3 tens × 4 tens = _____ _____

   30 × 40 = _____

COMMON CORE

Lesson 6:   Multiply two-digit multiples of 10 by two-digit multiples of 10 with
             the area model.
Date: 8/28/13

engage^ny   **3.B.30**

4. Draw an area model to represent 20 × 50.

2 tens × 5 tens = _____ _____

20 × 50 = _____

Rewrite each equation in unit form and solve.

5. 20 × 20 = _____

2 tens × 2 tens = _____ hundreds

6. 60 × 20 = _____

6 tens × 2 _____ = _____ hundreds

7. 70 × 20 = _____

_____ tens × _____ tens = 14 _____

8. 70 × 30 = _____

_____ _____ × _____ _____ = _____ hundreds

9. If there are 40 seats per row, how many seats are in 90 rows?

10. One ticket to the symphony costs $50. How much money is collected if 80 tickets are sold?

COMMON CORE

Lesson 6: Multiply two-digit multiples of 10 by two-digit multiples of 10 with the area model.
Date: 8/28/13

engage^ny 3.B.31

Name _____   Date _____

1. Represent the following expressions with disks, regrouping as necessary, writing a matching expression, and recording the partial products vertically as shown below.

   a. 1×43

tens	ones
● ● ● ●	● ● ●

	4	3	
×		1	
		3	→ 1×3 ones
	4	0	→ 1×4 tens
	4	3	

   1×4 tens + 1×3 ones

   b. 2×43

tens	ones

   c. 3×43

hundreds	tens	ones

d. 4 × 43

hundreds	tens	ones

2. Represent the following expressions with disks, regrouping as necessary. To the right, record the partial products vertically.

a. 2 × 36

b. 3 × 61

c. 4 × 84

Name _____   Date _____

1. Represent the following expressions with disks, regrouping as necessary, writing a matching expression, and recording the partial products vertically as shown below.

   a. 1 × 213

hundreds	tens	ones

   $$
   \begin{array}{r}
   2 \quad 1 \quad 3 \\
   \times \quad\quad\quad 1 \\
   \hline
   \end{array}
   $$

   → 1 × 3 ones
   → 1 × 1 ten
   → 1 × 2 hundreds

   1 × ___ hundreds + 1 × ___ ten + 1 × ___ ones

   b. 2 × 213

hundreds	tens	ones

   c. 3 × 214

hundreds	tens	ones

d. 3 × 1,254

thousands	hundreds	tens	ones

2. Represent the following expressions with disks, using either method shown during the class, renaming as necessary. To the right, record the partial products vertically.

a. 3 × 212

b. 2 × 4,036

c. 3 × 2,546

d. 3 × 1,407

3. Every day at the bagel factory, Cyndi makes 5 different kinds of bagels. If she makes 144 of each kind, what is the total number of bagels that she makes?

Lesson 8: Extend the use of place value disks to represent three- and four-digit by one-digit multiplication.

Date: 8/28/13

engage^ny 3.C.23

Name _____   Date _____

1. Solve using each method.

Partial Products	Standard Algorithm
a) 3 4 × 4	3 4 × 4

Partial Products	Standard Algorithm
b) 2 2 4 × 3	2 2 4 × 3

2. Solve. Use the standard algorithm.

a)
    2   5   1
 ×   3
	b)
	    1 3 5
	 × 6
		c)
		    3 0 4
		 × 9

d)
    4   0   5
 ×   4
	e)
	    3 1 6
	 × 5
		f)
		    3 9 2
		 × 6

COMMON CORE

Lesson 9:   Multiply three- and four-digit numbers by one-digit numbers applying the standard algorithm.

Date: 8/28/13

engage^{ny}   3.C.33

3. The product of 7 and 86 is _____.

4. 9 times as many as 457 is _____.

5. Jashawn wants to make 5 airplane propellers. He needs 18 cm of wood for each propeller. How many centimeters of wood will he use?
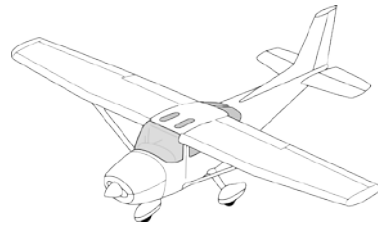
6. One game system costs $238. How much will 4 game systems cost?

7. A small bag of chips weighs 48 g. A large bag of chips weighs three times as much as the small bag. How much will 7 large bags of chips weigh?

COMMON CORE

Lesson 9:   Multiply three- and four-digit numbers by one-digit numbers applying the standard algorithm.
Date: 8/28/13

engage^ny   3.C.34

Name _____   Date _____

1. Solve using the standard algorithm.

a. 3×42	b. 6×42
c. 6×431	d. 3×431
e. $3 \times 6{,}212$	f. $3 \times 3{,}106$
g. $4 \times 4{,}309$	h. $4 \times 8{,}618$

COMMON CORE

Lesson 10: Multiply three- and four-digit numbers by one-digit numbers applying the standard algorithm.
Date: 8/28/13

engage^ny

3.C.43

2. There are 365 days in a common year. How many days are in 3 common years?

3. The length of one side of a square city block is 462 meters. What is the perimeter of the block?

4. Jake ran 2 miles. Jesse ran 4 times as far. There are 5,280 feet in a mile. How many feet did Jesse run?

Name _____ Date _____

1. Solve the following expressions using the standard algorithm, the partial products method, and the area model.

   a. 4 2 5 × 4

   4 (400 + 20 + 5)

   (4 × _____) + (4 × _____) + (4 × _____)

   b. 5 3 4 × 7

   7 (____ + ____ + ____)

   (__ × _____) + (__ × _____) + (__ × _____)

   c. 2 0 9 × 8

   __ (____ + ____)

   (__ × _____) + (__ × _____)

Lesson 11: Connect the area model and the partial products method to the standard algorithm.

Date: 8/28/13

engage^ny 3.C.54

2. Solve using the partial products method.

    Cayla's school has 258 students. Janet's school has 3 times as many students as Cayla's. How many students are in Janet's school?

3. Model with a tape diagram and solve.

    4 times as much as 467.

Solve using the standard algorithm, the area model, the distributive property, or the partial products method.

4. 5,131 × 7

5. 3 times as many as 2,805.

6. A restaurant sells 1,725 pounds of spaghetti and 925 pounds of linguini every month. After 9 months, how many pounds of pasta does the restaurant sell? Write your answer as a statement.

COMMON CORE

Lesson 11:   Connect the area model and the partial products method to the standard algorithm.

Date: 8/28/13

engage^ny

3.C.55

Name _____   Date _____

Use the RDW process to solve the following problems.

Item	Cost
1 balloon	26¢
1 lollipop	14¢
1 bracelet	33¢

1. The table shows the cost of party favors. Each party guest receives a bag with 1 balloon, 1 lollipop, and 1 bracelet. What is the total cost for 9 guests?

2. The Turner family uses 548 liters of water per day. The Hill family uses 3 times as much water per day. How much water does the Hill family use per week?

3. Jayden has 347 marbles. Elvis than 4 times as many as Jayden. Presley has 799 fewer than Elvis. How many marbles does Presley have?

4.

    a.   Write an equation that would allow someone to find the value of R.

1167	1167	1167

239

R
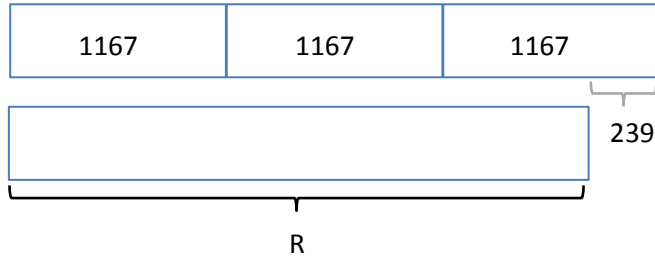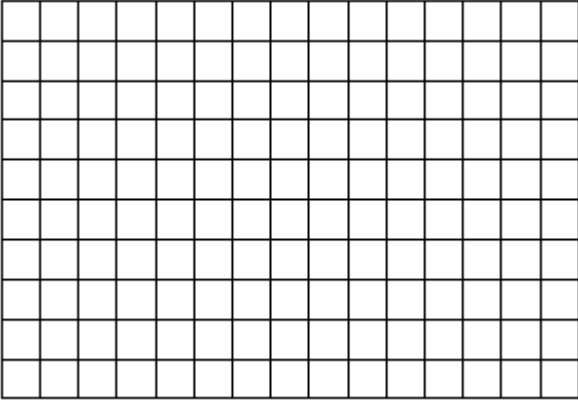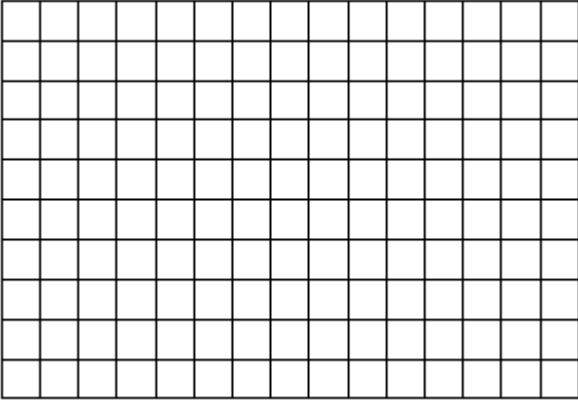
    b.   Write your own word problem to correspond to this tape diagram, then solve.

Name _____   Date _____

Solve using the RDW process.

1. Over the summer, Kate earned $180 each week for 7 weeks. Of that money, she spent $375 on a new computer and $137 on new clothes. How much money did she have left?

2. Sylvia weighed 8 pounds when she was born. By her first birthday, her weight had tripled. By her second birthday, she had gained 12 more pounds. At that time, Sylvia's father weighed 5 times as much as she did. What was Sylvia and her dad's combined weight?

Lesson 13: Use multiplication, addition, or subtraction to solve multi-step word problems.

Date: 8/28/13

engage^ny   3.D.22

3. Three boxes weighing 128 pounds each and one box weighing 254 pounds were loaded onto the back of an empty truck. A crate of apples was then loaded onto the same truck. If the total weight loaded onto the truck was 2,000 pounds, how much did the crate of apples weigh?

4. In one month, Charlie read 814 pages. In the same month, his mom read 4 times as many pages as Charlie, and that was 143 pages more than Charlie's dad read. What was the total number of pages read by Charlie and his parents?

COMMON CORE

Lesson 13:   Use multiplication, addition, or subtraction to solve multi-step word problems.
Date: 8/28/13

engage^ny   3.D.23

Name _____   Date _____

Solve the following problems. Use the RDW process.

1. There are 19 identical socks. How many pairs of socks are there? Will there be any socks without a match? If so, how many?

2. If it takes 8 inches of ribbon to make a bow, how many bows can be made from 3 feet of ribbon (1 foot = 12 inches)? Will any ribbon be left over? If so, how much?

3. The library has 27 chairs and 5 tables. If the same number of chairs is placed at each table, how many chairs can be placed at each table? Will there be any extra chairs? If so, how many?

Lesson 14:   Solve division word problems with remainders.
Date: 8/28/13

engage^ny   3.E.12

4. The baker has 42 kilograms of flour. She uses 8 kilograms each day. After how many days will she need to buy more flour?

5. Caleb has 76 apples. He wants to bake as many pies as he can. If it takes 8 apples to make each pie, how many apples will he use? How many apples will not be used?

6. Forty-five people are going to the beach. Seven people can ride in each van. How many vans will be required to get everyone to the beach?

Name _____   Date _____

Show division using an array.	Show division using an area model.
1. 18 ÷ 6 Quotient = _____ Remainder = _____	 Can you show 18 ÷ 6 with one rectangle? _____
2. 19 ÷ 6 Quotient = _____ Remainder = _____	 Can you show 19 ÷ 6 with one rectangle? _____ Explain how you showed the remainder:

COMMON CORE

Lesson 15: Understand and solve division problems with a remainder using the array and area models.
Date: 8/28/13

engage^ny   **3.E.22**

Solve using an array and an area model. The first one is done for you.

Example: 25 ÷ 2

a.
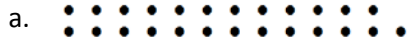
Quotient = 12   Remainder = 1

b. 2 | 12
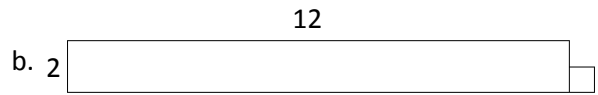
3.   29 ÷ 3

a.

b.

4.   22 ÷ 5

a.

b.

5.   43 ÷ 4

a.

b.

6.   59 ÷ 7

a.

b.

Lesson 15: Understand and solve division problems with a remainder using the array and area models.
Date: 8/28/13

engage^{ny}   3.E.23

Name _____ Date _____

Show the division using disks. Relate your work on the place value chart to long division. Check your quotient and remainder by using multiplication and addition.

1. $7 \div 2$

Ones

$2\overline{)7}$

quotient = _____

remainder = _____

Check Your Work

$$\begin{array}{r} 3 \\ \times\ 2 \\ \hline \end{array}$$

2. $27 \div 2$

Tens	Ones

$2\overline{)27}$

quotient = _____

remainder = _____

Check Your Work

3. $8 \div 3$

Ones

$3\overline{)8}$

quotient = _____

remainder = _____

Check Your Work

Lesson 16: Understand and solve two-digit dividend division problems with a remainder in the ones place by using number disks.
Date: 8/28/13

engage^ny 3.E.34

4.   38 ÷ 3

Tens	Ones

3 | 3 8   quotient = _____

remainder = _____

Check Your Work

5.   6 ÷ 4

Ones

4 | 6   quotient = _____

remainder = _____

Check Your Work

6.   86 ÷ 4

Tens	Ones

4 | 86   quotient = _____

remainder = _____

Check Your Work

COMMON CORE

Lesson 16:   Understand and solve two-digit dividend division problems with a remainder in the ones place by using number disks.

Date: 8/28/13

engage^{ny}   **3.E.35**

Name _____   Date _____

Show the division using disks. Relate your model to long division. Check your quotient and remainder by using multiplication and addition.

1. 5 ÷ 2

Ones

2 | 5   quotient = _____

remainder = _____

Check Your Work

2
× 2
_____

2. 50 ÷ 2

Tens	Ones

2 | 5 0   quotient = _____

remainder = _____

Check Your Work

3. 7 ÷ 3

Ones

3 | 7   quotient = _____

remainder = _____

Check Your Work

Lesson 17:   Represent and solve division problems requiring decomposing a remainder in the tens.
Date: 8/28/13

engage^ny   3.E.46

4. $75 \div 3$

Tens	Ones

3 | 7 5

quotient = _____

remainder = _____

Check Your Work

5. $9 \div 4$

Ones

4 | 9

quotient = _____

remainder = _____

Check Your Work

6. $92 \div 4$

Tens	Ones

4 | 9 2

quotient = _____

remainder = _____

Check Your Work

Name _____   Date _____

Solve using the standard algorithm. Check your quotient and remainder by using multiplication and addition.

1. $46 \div 2$	2. $96 \div 3$
3. $85 \div 5$	4. $52 \div 4$
5. $53 \div 3$	6. $95 \div 4$

Lesson 18:   Find whole number quotients and remainders.
Date: 8/28/13

engage^ny   **3.E.56**

7. $89 \div 6$	8. $96 \div 6$
9. $60 \div 3$	10. $60 \div 4$
11. $95 \div 8$	12. $95 \div 7$

Name _____   Date _____

1. When you divide 94 by 3, there is a remainder of 1. Model this problem with number disks. In the number disk model, how did you show the remainder?

2. Cayman says that 94 ÷ 3 is 30 with a remainder of 4. He reasons it is correct because (3 × 30) + 4 = 94. What mistake has Cayman made? Explain how he can correct his work.

3. The number disk model is showing 72 ÷ 3. Complete the model. Explain what happens to the 1 ten that is remaining in the tens column.

Tens	Ones
⊘⊘⊘⊘ ⑩ ⊘⊘	① ①
⑩ ⑩	
⑩ ⑩	
⑩ ⑩	

4. Two friends share 56 dollars.

    a. They have 5 ten dollar bills and 6 dollar bills. Draw a picture to show how the bills will be shared. Will they have to make change at any stage?

    b. Explain how they share the money evenly.

5. Imagine you are filming a video explaining the problem 45 ÷ 3 to new fourth graders. Create a script to explain how you can keep dividing after getting a remainder of 1 ten in the first step.

Name _____   Date _____

1. Alfonso solved a division problem by drawing an area model.

    a. Look at the area model. What division problem did Alfonso solve?

	10	8
4	40	32
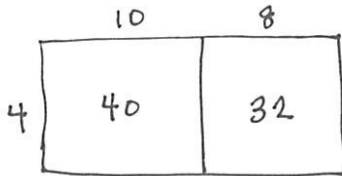
    b. Show a number bond to represent Alfonso's area model. Start with the total and then show how the total is split into two parts. Below the two parts, represent the total length using the distributive property and then solve.

$$(\_\_\div\_\_) \quad + \quad (\_\_\div\_\_)$$

$$= \quad \_\_\_\_ \quad + \quad \_\_\_\_$$

$$= \quad \_\_\_\_$$
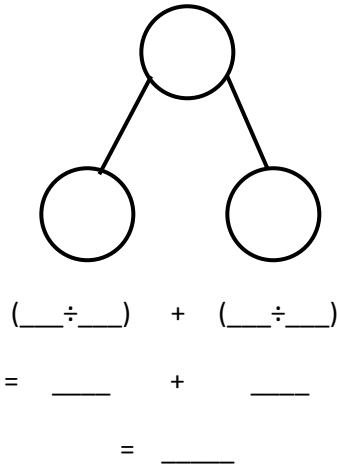
2. Solve 45 ÷ 3 using an area model. Draw a number bond and use the distributive property to solve for the unknown length.

3. Solve 64 ÷ 4 using an area model. Draw a number bond to show how you partitioned the area, and represent the division with a written method.

4. Solve 92 ÷ 4 using an area model. Explain, using words, pictures, or numbers, the connection of the distributive property to the area model.

5. Solve 72 ÷ 6 using an area model and the standard algorithm.

Lesson 20:   Solve division problems without remainders using the area model.
Date: 8/28/13

engage^ny   **3.E.81**

Name _____   Date _____

1. Solve 37 ÷ 2 using an area model. Use long division and the distributive property to record your work.

2. Solve 76 ÷ 3 using an area model. Use long division and the distributive property to record your work.

3. Carolina solved the following division problem by drawing an area model.
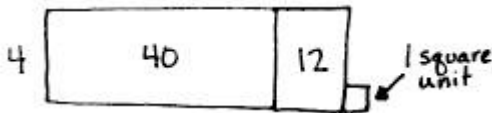
a. What division problem did she solve?
b. Show how Carolina's model can be represented using the distributive property.

COMMON CORE

Lesson 21: Solve division problems with remainders using the area model.
Date: 8/28/13

engage^{ny}

3.E.94

Solve the following problems using the area model. Support the area model with long division or the distributive property.

4. $48 \div 3$	5. $49 \div 3$
6. $56 \div 4$	7. $58 \div 4$
8. $66 \div 5$	9. $79 \div 3$

10. Seventy-three students are divided into groups of 6 students each. How many groups of 6 students are there? How many students will not be in a group of 6?

Name _____   Date _____

1. Record the factors of the given numbers as multiplication sentences and as a list in order from least to greatest. Classify each as prime (P) or composite (C). The first problem is done for you.

	Multiplication Sentences	**Factors**	**P or C**
a.	4 $1 \times 4 = 4$ $2 \times 2 = 4$	The factors of 4 are: 1,2, and 4	C
b.	6	The factors of 6 are:	
c.	7	The factors of 7 are:	
d.	9	The factors of 9 are:	
e.	12	The factors of 12 are:	
f.	13	The factors of 13 are:	
g.	15	The factors of 15 are:	
h.	16	The factors of 16 are:	
i.	18	The factors of 18 are:	
j.	19	The factors of 19 are:	
k.	21	The factors of 21 are:	
l.	24	The factors of 24 are:	

COMMON CORE

Lesson 22:   Find factor pairs for numbers to 100 and use understanding of factors to define prime and composite.
Date: 8/28/13

engage^{ny}

3.F.10

2. Find all factors for the following numbers and classify as prime or composite. Explain your classification of each as prime or composite.

Factor Pairs for 25	

Factor Pairs for 28	

Factor Pairs for 29	

3. Bryan says all prime numbers are odd numbers.
   a. List all of the prime numbers less than 20 in numerical order.

   b. Use your list to show that Bryan's claim is false.

4. Sheila has 28 stickers to divide evenly among 3 friends. She thinks there will be no leftovers. Use what you know about factor pairs to explain if Sheila is correct.

Lesson 22: Find factor pairs for numbers to 100 and use understanding of factors to define prime and composite.

Date: 8/28/13

engage^ny 3.F.11

Name _____   Date _____

1. Explain your thinking or use division to answer the following.

a. Is 2 a factor of 84?	b. Is 2 a factor of 83?
c. Is 3 a factor of 84?	d. Is 2 a factor of 92?
e. Is 6 a factor of 84?	f. Is 4 a factor of 92?
g. Is 5 a factor of 84?	h. Is 8 a factor of 92?

Lesson 23: Use division and the associative property to test for factors and observe patterns.

Date: 8/28/13

engage^ny **3.F.21**

2. Use the associative property to find more factors of 24 and 36.

    a. $24 = 12 \times 2$

       $= (\underline{\quad} \times 3) \times 2$

       $= \underline{\quad} \times (3 \times 2)$

       $= \underline{\quad} \times 6$

       $= \underline{\quad}$

    b. $36 = \underline{\quad} \times 4$

       $= (\underline{\quad} \times 3) \times 4$

       $= \underline{\quad} \times (3 \times 4)$

       $= \underline{\quad} \times 12$

       $= \underline{\quad}$

3. In class, we used the associative property to show that when 6 is a factor, then 2 and 3 are factors, because $6 = 2 \times 3$. Use the fact that $8 = 4 \times 2$ to show that 2 and 4 are factors of 56, 72, and 80.

      $56 = 8 \times 7$ $72 = 8 \times 9$ $80 = 8 \times 10$

4. The first statement is false. The second statement is true. Explain why using words, pictures, or numbers.

      If a number has 2 and 4 as factors, then it has 8 as a factor.

      If a number has 8 as a factor, then both 2 and 4 are factors.

Name _____   Date _____

1. For each of the following, time yourself for 1 minute. See how many multiples you can write.

    a. Write the multiples of 5 starting from 100.

    b. Write the multiples of 4 starting from 20.

    c. Write the multiples of 6 starting from 36.

2. List the numbers that have 24 as a multiple.

3. Use mental math, division, or the associate property to solve. (Use scratch paper if you like.)

    a. Is 12 a multiple of 4? _____   Is 4 a factor of 12? _____

    b. Is 42 a multiple of 8? _____   Is 8 a factor of 42? _____

    c. Is 84 a multiple of 6? _____   Is 6 a factor of 84? _____

4. Can a prime number be a multiple of any other number except itself? Explain your reasons why.

5. Follow the directions below.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

a. Circle in red the multiples of 2. When a number is a multiple of 2, what are the possible values for the ones digit?

b. Shade in green the multiples of 3. Choose one. What do you notice about the sum of the digits? Choose another. What do you notice about the sum of the digits?

c. Circle in blue the multiples of 5. When a number is a multiple of 5, what are the possible values for the ones digit?

d. Draw an X over the multiples of 10. What digit do all multiples of 10 have in common? What is the digit?

Name _____   Date _____

1. Follow the directions.

   Shade the number 1 red.

   a. Circle the first un-marked number.
   b. Cross off every multiple of that number except the one you circled. If it's already crossed off, skip it.
   c. Repeat Steps (a) and (b) until every number is either circled or crossed off.
   d. Shade every crossed out number in orange.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

2. List the circled numbers.

   a. Why weren't the circled numbers crossed off along the way?

   b. Except for the number 1, what is similar about all of the numbers that were crossed off?

   c. What is similar about all of the numbers that were circled?

Name _____   Date _____

1. Draw number disks to represent the following problems. Rewrite each in unit form and solve.

   a. 6 ÷ 2 = _____   ①①①   ①①①

       6 ones ÷ 2 = _____ones

   b. 60 ÷ 2 = _____
       6 tens ÷ 2 = _____

   c. 600 ÷ 2 = _____
       _____ ÷ 2 = _____

   d. 6,000 ÷ 2 = _____
       _____ ÷ 2 = _____

2. Draw number disks to represent each problem. Rewrite each in unit form and solve.
   a. 12 ÷ 3 = _____

       12 ones ÷ 3 = _____ones

   b. 120 ÷ 3 = _____

       _____ ÷ 3 = _____

   c. 1,200 ÷ 3 = _____

       _____ ÷ 3 = _____

![Common Core] Lesson 26: Divide multiples of 10, 100, and 1,000 by single-digit numbers.
Date: 8/28/13

engage^ny   3.G.10

3. Rewrite each in unit form. Solve for the quotient.

a. 800 ÷ 2 = 400 8 hundreds ÷ 2 = 4 hundreds	b. 600 ÷ 2	c. 800 ÷ 4	d. 900 ÷ 3
e. 300 ÷ 6 30 tens ÷ 6 = _____ tens	f. 240 ÷ 4	g. 450 ÷ 5	h. 200 ÷ 5
i. 3,600 ÷ 4 36 hundreds ÷ 4 = _____ hundreds	j. 2,400 ÷ 4	k. 2,400 ÷ 3	l. 4,000 ÷ 5

4. Some sand weighs 2,800 kilograms. It is divided equally between 4 trucks. How many kilograms of sand are in each truck?

5. Ivy has 5 times as many stickers as Adrian has. Ivy has 350 stickers. How many stickers does Adrian have?

6. An ice cream stand sold $1,600 worth of ice cream on Saturday, which was 4 times the amount sold on Friday. How much money did the ice cream stand collect on Friday?

COMMON CORE

Lesson 26:   Divide multiples of 10, 100, and 1,000 by single-digit numbers.
Date: 8/28/13

engage^{ny}

3.G.11

Name _____   Date _____

1. Divide. Use number disks to model each problem.

a. 324 ÷ 2	b. 344 ÷ 2
c. 483 ÷ 3	d. 549 ÷ 3

Lesson 27: Represent and solve division problems with up to a three-digit dividend numerically and with number disks requiring decomposing a remainder in the hundreds place.

Date: 8/28/13

engage^ny

3.G.24

2. Model using number disks and record using the algorithm.

a. 655 ÷ 5
Number Disks   Algorithm

b. 726 ÷ 3
Number Disks   Algorithm

c. 688 ÷ 4
Number Disks   Algorithm

COMMON CORE

Lesson 27:   Represent and solve division problems with up to a three-digit
dividend numerically and with number disks requiring decomposing
a remainder in the hundreds place.

Date: 8/28/13

engage^ny

3.G.25

Name _____   Date _____

1. Divide. Check your work by multiplying. Draw disks on a place value chart as needed.

a. 574 ÷ 2	b. 861 ÷ 3
c. 354 ÷ 2	d. 354 ÷ 3
e. 873 ÷ 4	f. 591 ÷ 5

g. 275 ÷ 3	h. 459 ÷ 5
i. 678 ÷ 4	j. 955 ÷ 4

2.   Zach filled 581 one-liter bottles with apple cider. He distributed the bottles evenly to 4 stores. How many liter bottles did each of the stores receive? Were there any bottles left over?   If so, how many?

Lesson 28:   Represent and solve three-digit dividend division with divisors of 2, 3, 4, and 5 numerically.
Date: 8/28/13

engageny   **3.G.36**

Name _____   Date _____

1. Divide, then check using multiplication.

a. 1,672 ÷ 4	b. 1,578 ÷ 4
c. 6,948 ÷ 2	d. 8,949 ÷ 4
e. 7,569 ÷ 2	f. 7,569 ÷ 3

COMMON CORE

Lesson 29: Represent numerically four-digit dividend division with divisors of 2, 3, 4, and 5, decomposing a remainder up to three times.

Date: 8/28/13

engage^{ny}   3.G.46

g. 7,955 ÷ 5	h. 7,574 ÷ 5
i. 7,469 ÷ 3	j. 9,956 ÷ 4

2. There are twice as many cows as goats on a farm. All the cows and goats have a total of 1,116 legs. How many goats are there?

Lesson 29:
Date:

Represent numerically four-digit dividend division with divisors of 2, 3, 4, and 5, decomposing a remainder up to three times.
8/28/13

engage^ny

3.G.47

Name _____   Date _____

Divide. Check your solutions by multiplying.

1. 204 ÷ 4

2. 704 ÷ 3

3. 627 ÷ 3

4. 407 ÷ 2

5. 760 ÷ 4

6. 5,120 ÷ 4

7. $3,070 \div 5$

8. $6,706 \div 5$

9. $8,313 \div 4$

10. $9,008 \div 3$

11.

   a. Find the quotient and remainder for $3,131 \div 3$.

   b. How could you change the digit in the ones place of the whole so that there would be no remainder? Explain how you determined your answer.

Lesson 30: Solve division problems with a zero in the dividend or with a zero in the quotient.

Date: 8/28/13

3.G.57

Name _____   Date _____

Draw a tape diagram and solve. The first two tape diagrams have been drawn for you. Identify if the group size or the number of groups is unknown.

1. Monique needs exactly 4 plates on each table for the banquet. If she has 312 plates, how many tables is she able to prepare?

312

| 4 | ...?... |
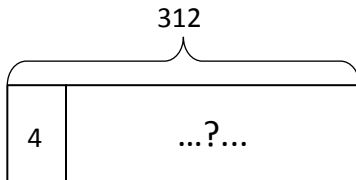
2. 2,365 books were donated to an elementary school. If 5 classrooms shared the books equally, how many books did each class receive?

2.365

| ? | | | | |
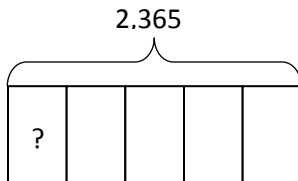
3. If 1,503 kilograms of rice was packed in sacks weighing 3 kilograms each, how many sacks were packed?

4. Rita made 5 batches of cookies. There were a total of 2,400 cookies. If there were the same number of cookies in each batch, how many cookies were in 4 batches?

5. Every day, Sarah drives the same distance to work and back home. If Sarah drove 1,008 miles in 5 days, how far did Sarah drive in 3 days?

Lesson 31: Interpret division word problems as either *number of groups unknown* or *group size unknown*.
Date: 8/28/13

engage^ny 3.G.69

Name _____   Date _____

Solve the following problems. Draw tape diagrams to help you solve. If there is a remainder, shade in a small portion of the tape diagram to represent that portion of the whole.

1. A concert hall contains 8 sections of seats with the same number of seats in each section. If there are 248 seats, how many seats are in each section?

2. In one day, the bakery made 719 bagels. The bagels were divided into 9 equal shipments. A few bagels were left over and given to the baker. How many bagels did the baker get?

3. The sweet shop has 614 pieces of candy. They packed the candy into bags with 7 pieces in each bag. How many bags of candy did they fill? How many pieces of candy were left?

COMMON CORE   Lesson 32:   Interpret and find whole number quotients and remainders to solve
one-step division word problems with larger divisors of 6, 7, 8, and 9.
Date: 8/28/13   engage^ny   3.G.79

4. There were 904 children signed up for the relay race. If there were 6 children on each team, how many teams were made? The remaining children served as referees. How many children served as referees?

5. 1,188 kilograms of rice are divided into 7 sacks. How many kilograms of rice are in 6 sacks of rice? How many kilograms of rice remain?

COMMON CORE

Lesson 32:   Interpret and find whole number quotients and remainders to solve
Date: one-step division word problems with larger divisors of 6, 7, 8, and 9.
8/28/13

engage^ny   **3.G.80**

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Name _____   Date _____

1. Ursula solved the following division problem by drawing an area model.
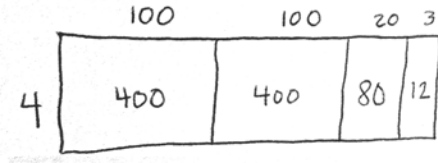
a. What division problem did she solve?

b. Show a number bond to represent Ursula's area model and represent the total length using the distributive property.

---

2.   a. Solve 960 ÷ 4 using the area model. There is no remainder in this problem.

b. Draw a number bond and use the long division algorithm to record your work from (a).

COMMON CORE | **Lesson 33:** Explain the connection of the area model of division to the long
division algorithm for three- and four-digit dividends.
Date: 8/28/13 | **engage**ny | **3.G.92**

3. a. Draw an area model to solve 774 ÷ 3.

   b. Draw a number bond to represent this problem.

   c. Record your work using the long division algorithm.

4. a. Draw an area model to solve 1,584 ÷ 2.

   b. Draw a number bond to represent this problem.

   c. Record your work using the long division algorithm.

COMMON CORE

Lesson 33: Explain the connection of the area model of division to the long division algorithm for three- and four-digit dividends.
Date: 8/28/13

engageny

3.G.93

Name _____   Date _____

1. Use the associative property to rewrite each expression. Solve using disks and then complete the number sentences.

   a. 30 × 24

hundreds	tens	ones

   = (_____ × 10) × 24

   = _____ × (10 × 24)

   = _____

   b. 40 × 43

thousands	hundreds	tens	ones

   = (4 × 10) × _____

   = 4 × (10 × ___)

   = _____

   c. 30 × 37

thousands	hundreds	tens	ones

   = (3 × _____) × _____

   = 3 × (10 × _____)

   = _____

2. Use the associative property and number disks to solve.

   a. 20×27

   b. 40×31

3. Use the associative property without number disks to solve.
   a. 40×34 b. 50×43

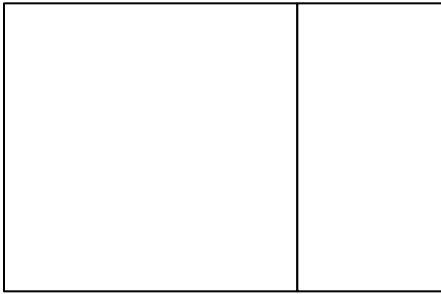4. Use the distributive property to solve the following problems. Distribute the second factor.
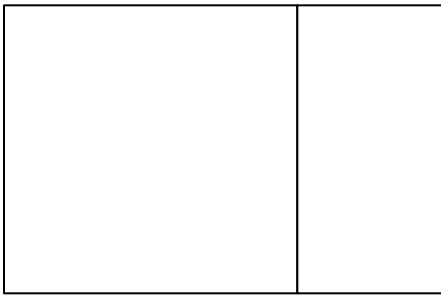   a. 40×34 b. 60×25

Lesson 34: Multiply two-digit multiples of 10 by two-digit numbers using a place value chart.
Date: 8/28/13

3.H.11

Name _____   Date _____

Use an area model to represent the following expressions. Then record the partial products and solve.
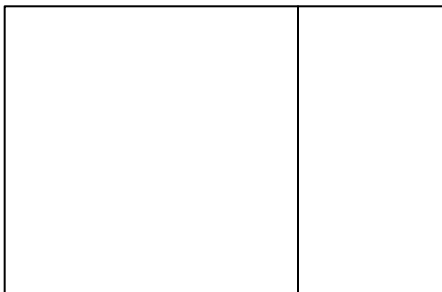
1. 20 × 22

```
        2 2
    ×   2 0
    _____

+   _____
```

2. 50 × 41

```
        4 1
    ×   5 0
    _____

+   _____
```

3. 60 × 73

```
        7 3
    ×   6 0
    _____

+   _____
```

Lesson 35: Multiply two-digit multiples of 10 by two-digit numbers using the area model.

Date: 8/28/13

engage^ny   **3.H.21**

Draw an area model to represent the following expressions. Then record the partial products vertically and solve.

4. 80×32

5. 70×54

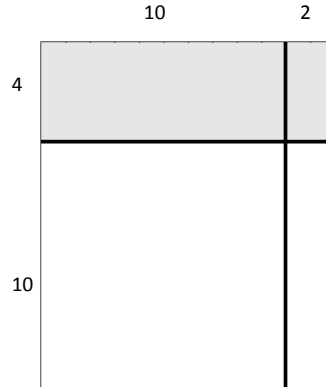Visualize the area model and solve the following products numerically.

6. 30×68

7. 60×34

8. 40×55

9. 80×55

Lesson 35: Multiply two-digit multiples of 10 by two-digit numbers using the area model.

Date: 8/28/13

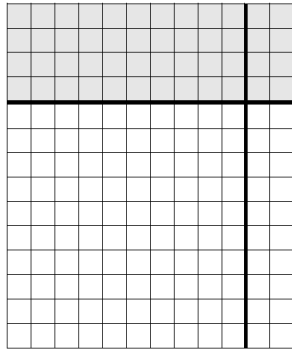3.H.22

Name _____   Date _____

1.

    a.   In each of the two models pictured below, write the expressions that determine the area of each of the four smaller rectangles.
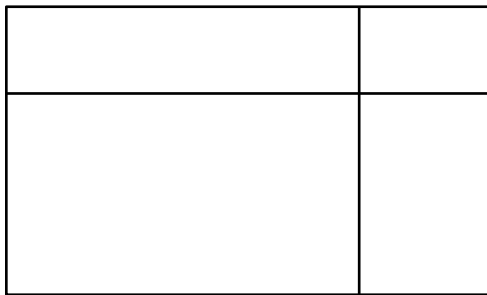
    b.   Using the distributive property, rewrite the area of the large rectangle as the sum of the areas of the four smaller rectangles. Express first in number form and then read in unit form.

$14 \times 12 = (4 \times \underline{\hspace{1cm}}) + (4 \times \underline{\hspace{1cm}}) + (10 \times \underline{\hspace{1cm}}) + (10 \times \underline{\hspace{1cm}})$

2.   Use an area model to represent the following expressions. Record the partial products and solve.

    a. 14×22

$$\begin{array}{r} 2\ 2 \\ \times\ \ 1\ 4 \\ \hline \\ \hline \\ \hline \\ +\ \underline{\hspace{1.5cm}} \end{array}$$

Draw an area model to represent the following expressions. Record the partial products vertically and solve.

3. 25×32

4. 35×42

Visualize the area model and solve the following numerically using four partial products. (You may sketch an area model if it helps.)

5. 42×11 6. 46×11

Name _____   Date _____

1. Solve 14 × 12 using 4 partial products and 2 partial products. Remember to think in terms of units as you solve. Write an expression to find the area of each smaller rectangle in the area model.

4 ones × 2 ones

4 ones × 1 ten

1 ten × 2 ones

1 ten × 1 ten

4 ones × 12 ones

1 ten × 12 ones

2. Solve 32 × 43 using 4 partial products and 2 partial products. Match each partial product to its area on the models. Remember to think in terms of units as you solve.

2 ones × 3 ones

2 ones × 4 tens

3 tens × 3 ones

3 tens × 4 tens

2 ones × 43 ones

3 tens × 43 ones

Lesson 37:   Transition from four partial products to the standard algorithm for
two-digit by two-digit multiplication.
Date: 8/28/13

3.H.44

3. Solve 57 × 15 using 2 partial products. Match each partial product to its rectangle on the area model.

4. Solve the following using 2 partial products. Visualize the area model to help you.

a.
```
      2 5
  ×   4 6
  ─────────

              ___ × ___
  ─────────
              ___ × ___
  ─────────
```

b.
```
      1 8
  ×   6 2
  ─────────

              ___ × ___
  ─────────
              ___ × ___
  ─────────
```

c.
```
      3 9
  ×   4 6
  ─────────
```

d.
```
      7 8
  ×   2 3
  ─────────
```

COMMON CORE   **Lesson 37:**   Transition from four partial products to the standard algorithm for two-digit by two-digit multiplication.
Date: 8/28/13

engage^{ny}   3.H.45

Name _____   Date _____

1. Express 23 × 54 as two partial products using the distributive property. Solve.

54

3

20

23 × 54 = (___ fifty-fours) + (___ fifty-fours)

```
    5 4
×   2 3
```
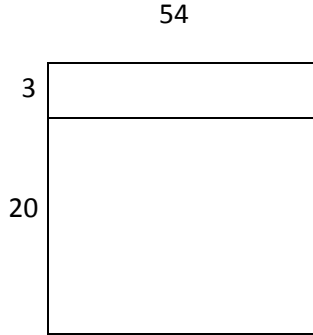   3 × _____
                                                          20 × _____

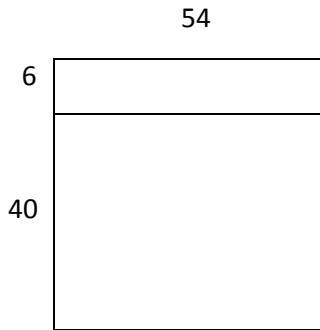2. Express 46 × 54 as two partial products using the distributive property. Solve.

54

6

40

46 × 54 = (___ fifty-fours) + (___ fifty-fours)

```
    5 4
×   4 6
```
                                                    _____ × _____
                                                    _____ × _____

3. Express 55 × 47 using two partial products using the distributive property. Solve.

55 × 47 = (____ × _____) + (____ × _____)

```
    4 7
×   5 5
```
                                                    _____ × _____
                                                    _____ × _____

Lesson 38: | Transition from four partial products to the standard algorithm for two-digit by two-digit multiplication.
Date: | 8/28/13

engage^ny   **3.H.55**

4. Solve the following using 2 partial products.

```
        5 8
  ×     4 5
  _____
              ____ × ____
  _____
              ____ × _____
  _____
```

5. Solve using the multiplication algorithm.

```
        8 2
  ×     5 5
  _____
              _____ × _____
  _____
              _____ × _____
  _____
```

6. 53 × 63

7. 84 × 73

Lesson 38: Transition from four partial products to the standard algorithm for two-digit by two-digit multiplication.

Date: 8/28/13

engage^ny   3.H.56

Name _____   Date _____

1. Determine the perimeter and area of rectangles A and B.

A = _____   A = _____

P = _____   P = _____

2. Determine the perimeter and area of each rectangle.
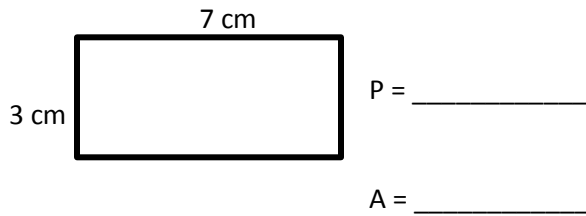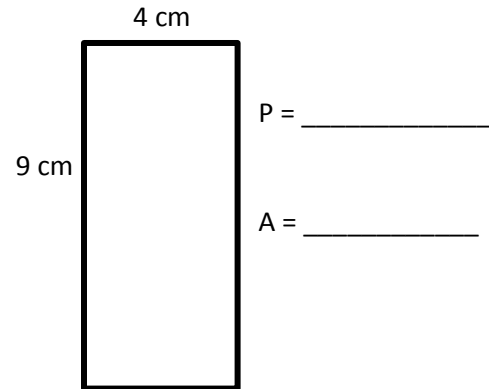
a.

7 cm

3 cm

P = _____

A = _____

b.

4 cm

9 cm

P = _____

A = _____

3. Determine the perimeter of each rectangle.

a.

149 m

76 m

P = _____

b.

2 m 10 cm

45 cm

P = _____

4. Given the rectangle's area, find the unknown side length.

a.

6 cm

| 6 square cm | *x* cm |

x = _____

b.

5 m

| 25 square m | *x* m |

x = _____
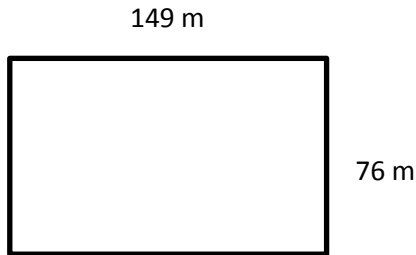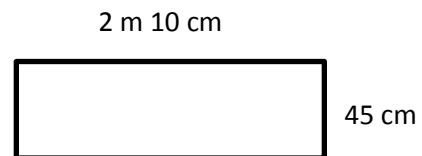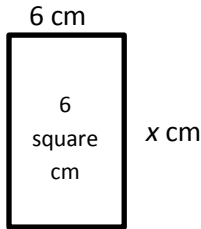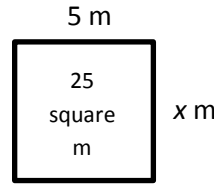
5. Given the rectangle's perimeter, find the unknown side length.

a. P = 180 cm   40 cm
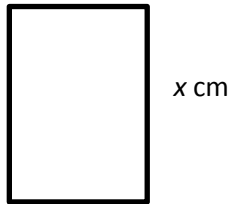
x cm

x = _____

b. P = 1,000 m

x m

150 m

x = _____

6. Each of the following rectangles has whole number side lengths. Given the area and perimeter, find the length and width.

a. A = 32 square cm
        P = 24 cm

l = _____

32 square cm   w = _____

b. A = 36 square m
        P = 30 m

w = _____

36 square m

l = _____

Lesson 1:   Investigate and use the formulas for area and perimeter of rectangles.

Date: 8/28/13

engage^ny   **3.A.15**
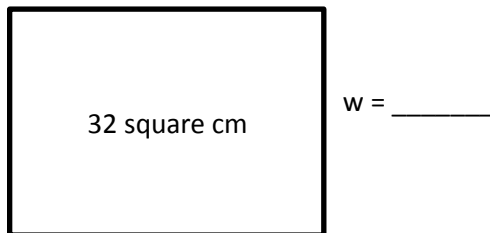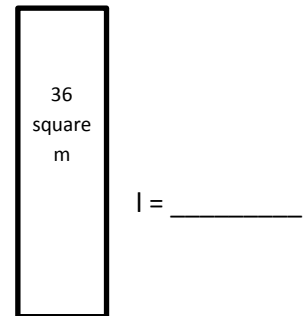
Name _____   Date _____

1. A rectangular pool is 7 feet wide. It is 3 times as long as it is wide.

    a. Label the diagram with the dimensions of the pool.
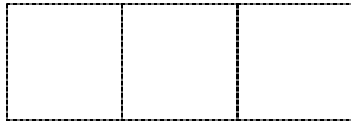
    b. Find the perimeter of the pool.

2. A rectangular bumper sticker is 3 inches long. It is 4 times as wide as it is long.

    a. Draw a diagram of the bumper sticker and label its dimensions.

    b. Find the perimeter and area of the bumper sticker.

| | Lesson 2: | Solve multiplicative comparison word problems by applying the area and perimeter formulas. | engage^ny | **3.A.28** |
| | **Date:** | 8/28/13 | | |

COMMON CORE

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3. The area of a rectangle is 36 square centimeters and its length is 9 centimeters.

    a. What is the width of the rectangle?

    b. Elsa wants to draw a second rectangle that is the same length but is 3 times as wide. Draw and label Elsa's second rectangle.

    c. What is the perimeter of Elsa's second rectangle?

4. The area of Nathan's bedroom rug is 15 square feet. The longer side measures 5 feet. His living room rug is twice as long and twice as wide as the bedroom rug.

    a. Draw and label a diagram of Nathan's bedroom rug. What is its perimeter?

    b. Draw and label a diagram of Nathan's living room rug. What is its perimeter?

Lesson 2: Solve multiplicative comparison word problems by applying the area and perimeter formulas.
Date: 8/28/13

engage^{ny}   3.A.29

c.   What is the relationship between the two perimeters?

d.   Find the area of the living room rug using the formula A = *l* × *w*.

e.   The living room rug has an area that is how many times that of the bedroom rug?

f.   Compare the way the perimeter changed with the way the area changed between the two rugs. Explain what you notice using words, pictures, or numbers.

Lesson 2:   Solve multiplicative comparison word problems by applying the area and perimeter formulas.
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3.A.30

Name _____   Date _____

Solve the following problems. Use pictures, words, or diagrams to help you solve.

1. Katie cut out a piece of wrapping paper that was 2 times as long and 3 times as wide as the box that she was wrapping. The box was 5 inches long and 4 inches wide. What is the perimeter of the wrapping paper that Katie cut?

2. Alexis has a piece of red paper that is 4 centimeters wide. Its length is twice its width. She glues a piece of blue paper on top of the red piece measuring 3 centimeters by 7 centimeters. How many square centimeters of red paper will be visible on top?

3. Brinn's kitchen has an area of 81 square feet. The kitchen is 9 times as many square feet as Brinn's pantry. If the pantry is 3 feet wide, what is the length of the pantry?

4. The length of Marshall's poster is 2 times its width. If the perimeter is 72 inches, what is the area of the poster?

COMMON CORE

Lesson 3:   Demonstrate understanding of area and perimeter formulas by
              solving multi-step real world problems.
Date: 8/28/13

engage**ny**   3.A.41

Name _____   Date _____

Example:

5 × 10 = **50**

5 ones × 10 = **5 tens**

thousands	hundreds	tens	ones
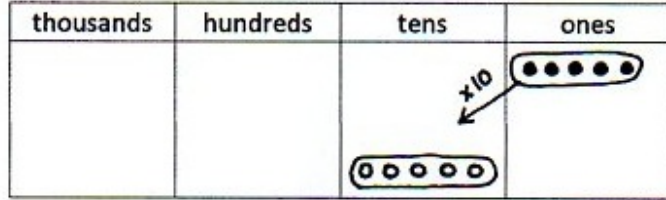
Draw number disks and arrows as shown to represent each product.

1. 7 × 100 = _____

    7 × 10 × 10 = _____

    7 ones × 100 = _____ _____

thousands	hundreds	tens	ones

2. 7 × 1,000 = _____

    7 × 10 × 10 × 10 = _____

    7 ones × 1,000 = _____ _____

thousands	hundreds	tens	ones

3. Complete the following equations.

    a. 8 × 10 = _____

    b. _____ × 8 = 800

    c. 8,000 = _____ × 1,000

    d. 10 × 3 = _____

    e. 3 × _____ = 3,000

    f. _____ × 3 = 300

    g. 1,000 × 4 = _____

    h. _____ = 10 × 4

    i. 400 = _____ × 100

COMMON CORE   Lesson 4:   Interpret and represent patterns when multiplying by 10, 100, and   engage^ny   3.B.12
                     Date: 1,000 in arrays and numerically.
                                  8/28/13

Draw number disks and arrows as shown to represent each product.

4. 15 × 10 = _____

    (1 ten 5 ones) × 10 = _____ _____

thousands	hundreds	tens	ones

5. 17 × 100 = _____

    17 × 10 × 10 = _____

    (1 ten 7 ones) × 100 = _____ _____

thousands	hundreds	tens	ones

6. 36 × 1,000 = _____

    36 × 10 × 10 × 10 = _____

    (3 tens 6 ones) × 1,000 = _____ _____

ten thousands	thousands	hundreds	tens	ones

Decompose each multiple of 10, 100, or 1,000 before multiplying.

7. 2 × 80 = 2 × 8 × _____

        = 16 × _____

        = _____

8. 2 × 400 = 2 × _____ × _____

        = _____ × _____

        = _____

9. 5 × 5,000 = _____ × _____ × _____

        = _____ × _____

        = _____

10. 7 × 6,000 = _____ × _____ × _____

        = _____ × _____

        = _____

Lesson 4: Interpret and represent patterns when multiplying by 10, 100, and 1,000 in arrays and numerically.
Date: 8/28/13

engage^{ny} 3.B.13

Name _____   Date _____

Draw number disks to represent the value of the following expressions.

1. 5 × 2 = _____

    5 times _____ ones is _____ ones.

    $$\begin{array}{r} 2 \\ \times\ \ 5 \\ \hline \end{array}$$

2. 5 × 20 = _____

    5 times _____ tens is _____ _____.

    $$\begin{array}{r} 2\,0 \\ \times\ \ \ \ 5 \\ \hline \end{array}$$

3. 5 × 200 = _____

    5 times _____ _____ is _____ _____ .

    $$\begin{array}{r} 2\,0\,0 \\ \times\ \ \ \ \ 5 \\ \hline \end{array}$$

4. 5 × 2,000 = _____

    _____ times _____ _____ is _____ _____ .

    $$\begin{array}{r} 2,0\,0\,0 \\ \times\ \ \ \ \ \ 5 \\ \hline \end{array}$$

Lesson 5:   Multiply multiples of 10, 100, and 1,000 by single digits, recognizing patterns.
Date: 8/28/13

engage^{ny}   3.B.22

5. Find the product.

a. $20 \times 9 =$	b. $6 \times 70 =$	c. $7 \times 700 =$	d. $3 \times 900 =$
e. $9 \times 90 =$	f. $40 \times 7 =$	g. $600 \times 6 =$	h. $8 \times 6,000 =$
i. $5 \times 70 =$	j. $5 \times 80 =$	k. $5 \times 200 =$	l. $6,000 \times 5 =$

6. At the school cafeteria, each student who ordered lunch gets 6 chicken nuggets. The cafeteria staff prepares enough for 300 kids. How many chicken nuggets does the cafeteria staff prepare altogether?

7. Jaelynn has thirty times as many stickers as her brother. Her brother has 8 stickers. How many stickers does Jaelynn have?

8. The flower shop has 40 times as many flowers in one cooler as Julia has in her bouquet. The cooler has 120 flowers. How many flowers are in Julia's bouquet?

COMMON CORE | Lesson 5:   Multiply multiples of 10, 100, and 1,000 by single digits, recognizing patterns.
Date: 8/28/13

engage^{ny}   3.B.23

Name _____   Date _____

Represent the following problem by drawing disks in the place value chart.

1. To solve 30 × 60, think:

Hundreds	Tens	Ones

(3 tens × 6) × 10 = _____

30 × (6 × 10) = _____

30 × 60 = _____

2. Draw an area model to represent 30 × 60.

3 tens × 6 tens = _____ _____

3. Draw an area model to represent 20 × 20.

2 tens × 2 tens = _____ _____

20 × 20 = _____

COMMON CORE   **Lesson 6:**   Multiply two-digit multiples of 10 by two-digit multiples of 10 with the area model.   **engage**^ny   **3.B.33**

Date: 8/28/13

4.   Draw an area model to represent 40 × 60.

4 tens × 6 tens = _____ _____

40 × 60 = _____

Rewrite each equation in unit form and solve.

5.   50 × 20 = _____

5 tens × 2 tens = _____ hundreds

6.   30 × 50 =

3 tens × 5 _____ = _____ hundreds

7.   60 × 20 =

_____ tens × _____ tens = 12 _____

8.   40 × 70 =

_____ _____ × _____ _____ = _____ hundreds

Lesson 6:   Multiply two-digit multiples of 10 by two-digit multiples of 10 with the area model.
Date: 8/28/13

engage^ny   3.B.34

9. There are 60 seconds in a minute and 60 minutes in an hour. How many seconds are in one hour?

10. To print a comic book, 50 pieces of paper are needed. How many pieces of paper are needed to print 40 comic books?

Lesson 6:   Multiply two-digit multiples of 10 by two-digit multiples of 10 with the area model.

Date: 8/28/13

engage^{ny}   **3.B.35**

Name _____   Date _____

1. Represent the following expressions with disks, regrouping as necessary, writing a matching expression, and recording the partial products vertically.

    a. 3 × 24

    b. 3 × 42

    c. 4 × 34

2. Represent the following expressions with disks, regrouping as necessary. To the right, record the partial products vertically.

   a. 4 × 27

   b. 5 × 42

3. Cindy says she found a shortcut for doing multiplication problems. When she multiplies 3 × 24, she says, "3 × 4 is 12 ones, or 1 ten and 2 ones. Then there's just 2 tens left in 24, so add it up and you get 3 tens and 2 ones." Do you think Cindy's shortcut works? Explain your thinking in words and justify your response using a model or partial products.

Lesson 7: Use place value disks to represent two-digit by one-digit multiplication.

Date: 8/28/13

engage^ny 3.C.14

Name _____ Date _____

1. Represent the following expressions with disks, regrouping as necessary, writing a matching expression, and recording the partial products vertically as shown below.

   a. 2 × 424

hundreds	tens	ones
● ● ● ●	● ●	● ● ● ●

   $$\begin{array}{r} 4 \quad 2 \quad 4 \\ \times \qquad\quad 2 \\ \hline \end{array}$$

   → 2 × ___ ones
   → 2 × ___ _____
   → ___ × ___ _____

   2 × ___ _____ + 2 × ___ _____ + 2 × ___ ones

   b. 3 × 424

hundreds	tens	ones

   c. 4 × 1,424

![COMMON CORE] **Lesson 8:**   Extend the use of place value disks to represent three- and four-digit by one-digit multiplication.
Date: 8/28/13

engage^{ny}   **3.C.25**

2. Represent the following expressions with disks, using either method shown in the class, regrouping as necessary. To the right, record the partial products vertically.

a. 2 × 617

b. 5 × 642

c. 3 × 3,034

3. Every day, Penelope jogs three laps around the playground to keep in shape. The playground is rectangular with a width of 163 meters and a length of 320 meters.

a. Find the total amount of meters in one lap.

b. Determine how many meters Penelope jogs in three laps.

Name _____   Date _____

1. Solve using each method.

Partial Products	Standard Algorithm
a)　　　　4　6 　　　　×　　2	4　6 　　　　×　　2

Partial Products	Standard Algorithm
b)　　3　1　5 　　　×　　4	3　1　5 　　　×　　4

2. Solve. Use the standard algorithm.

a) 　　2　3　2 　×　　　　4	b) 　　1　4　2 　×　　　　6	c) 　　3　1　4 　×　　　　7
d) 　　4　4　0 　×　　　　3	e) 　　5　0　7 　×　　　　8	f) 　　3　8　4 　×　　　　9

3. What is the product of 8 and 54?

Lesson 9:　Multiply three- and four-digit numbers by one-digit numbers applying the standard algorithm.

Date:　8/28/13

engage^{ny}

3.C.36

4. Isabel earned 350 points while she was playing Blasting Robot. Isabel's mom earned 3 times as many points as Isabel. How many points did Isabel's mom earn?

5. To get enough money to go to on a field trip, every student in a club has to raise $53 selling chocolate bars. There are 9 students in the club. How much money does the club need to raise to go on the field trip?

6. Mr. Meyers wants to order 4 tablets for his classroom. Each tablet costs $329. How much will all four tablets cost?

7. Amaya read 64 pages last week. Amaya's older brother, Rogelio, read twice as many pages in the same amount of time. Their big sister, Elianna, is in high school and read 4 times as many pages as Rogelio did. How many pages did Elianna read last week?

Lesson 9: Multiply three- and four-digit numbers by one-digit numbers applying the standard algorithm.

Date: 8/28/13

3.C.37

Name _____   Date _____

1. Solve using the standard algorithm.

a. 3×41	b. 9×41
c. 7×143	d. 7×286
e. $4 \times 2,048$	f. $4 \times 4,096$
g. $8 \times 4,096$	h. $4 \times 8,192$

COMMON CORE   Lesson 10:   Multiply three- and four-digit numbers by one-digit numbers applying the standard algorithm.
Date: 8/28/13

engage^{ny}   **3.C.46**

2. One gallon of water contains 128 fluid ounces. Robert's family brings six gallons of water for the players on the football team. How many fluid ounces are in six gallons?

3. It takes 687 Earth days for the planet Mars to revolve around the Sun once. How many Earth days does it take Mars to revolve around the Sun four times?

4. Tammy buys a 4-gigabyte memory card for her camera. Dijonea buys a memory card with twice as much storage as Tammy's. One gigabyte is 1,024 megabytes. How many megabytes of storage does Dijonea have on her memory card?

Lesson 10: Multiply three- and four-digit numbers by one-digit numbers applying the standard algorithm.
Date: 8/28/13

engageny   3.C.47

Name _____   Date _____

1. Solve the following expressions using the standard algorithm, the partial products method, and the area model.

a. 3 0 2 × 8

8 (300 + 2)

(8 × _____) + (8 × _____)

b. 2 1 6 × 5

5 (_____ + _____ + _____)

(__ × _____) + (__ × _____) + (__ × _____)

c. 5 9 3 × 9

__ (_____ + _____ + _____)

(__ × _____) + (__ × _____) + (__ × _____)

2. Solve using the partial products method.

   On Monday 475 people visited the museum. On Saturday there were 4 times as many visitors as there were on Monday. How many people visited the museum on Saturday?

3. Model with a tape diagram and solve.

   6 times as much as 384.

Solve using the standard algorithm, the area model, the distributive property, or the partial products method.

4. 6,253 × 3

5. 7 times as many as 3,073.

6. A cafeteria makes 2,516 pounds of white rice and 608 pounds of brown rice every month. After 6 months, how many pounds of rice does the cafeteria make? Write your answer as a statement.

COMMON CORE   Lesson 11:   Connect the area model and the partial products method to the standard algorithm.
Date: 8/28/13

engage^ny   3.C.58

Name _____   Date _____

Use the RDW process to solve the following problems.

1. The table shows the number of stickers of various types in Chrissy's new sticker book. Chrissy's six friends also own the same sticker book. How many stickers do Chrissy and her six friends have altogether?

Type of Sticker	Number of Stickers
flowers	32
smiley faces	21
hearts	39

2. The small copier makes 437 copies each day. The large copier makes 4 times as many copies each day. How many copies does the large copier make each week?

3. Jared sold 194 Boy Scout chocolate bars. Matthew sold three times as many as Jared. Gary sold 297 fewer than Matthew. How many bars did Gary sell?

COMMON CORE

Lesson 12:   Solve two-step word problems, including multiplicative comparison.
Date: 8/28/13

engage^ny   3.D.12

4. a. Label the rest of the diagram below. Solve for M.

| 973 meters |

| 723 meters | | |

M
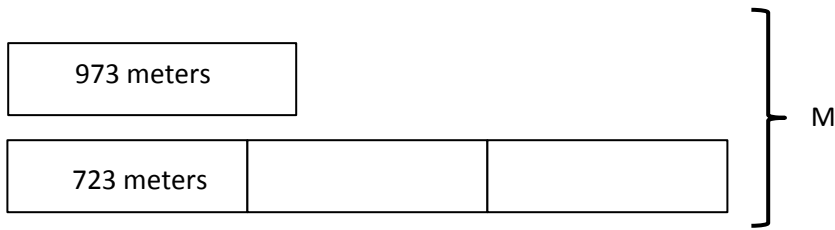
b. Write your own problem that could be solved using the diagram above.

Name _____   Date _____

Solve using the RDW process.

1. A pair of jeans costs $89. A jean jacket costs twice as much. What is the total cost of a jean jacket and 4 pairs of jeans?

2. Sarah bought a shirt on sale for $35. The original price of the shirt was 3 times that amount. Sarah also bought a pair of shoes on sale for $28. The original price of the shoes was 5 times that amount. How much money did the shirt and shoes cost before they went on sale?

COMMON CORE

Lesson 13:   Use multiplication, addition, or subtraction to solve multi-step word problems.
Date: 8/28/13

engage^ny   3.D.25

3. All 3,000 seats in a theater are being replaced. So far, 5 sections of 136 seats and a sixth section containing 348 seats have been replaced. How many more seats do they still need to replace?

4. Computer Depot sold 762 reams of paper. Paper Palace sold 3 times as much paper as Computer Depot and 143 reams more than Office Supply Central. How many reams of paper were sold by all three stores combined?

Lesson 13: Use multiplication, addition, or subtraction to solve multi-step word problems.

Date: 8/28/13

engage^{ny}

3.D.26

Name _____   Date _____

Solve the following problems. Use the RDW process.

1. Linda makes booklets using 2 sheets of paper. She has 17 sheets of paper. How many of these booklets can she make? Will she have any extra paper? How many sheets?
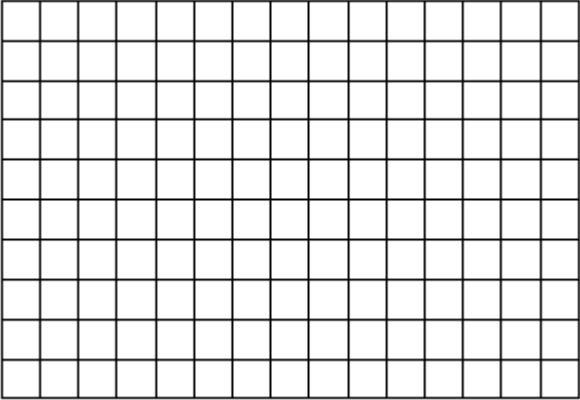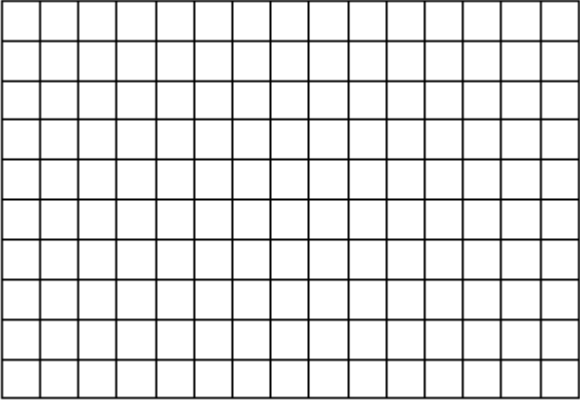
2. Linda uses thread to sew the booklets together. She cuts 6 inches of thread for each booklet. How many booklets can she stitch with 50 inches of thread? Will she have any unused thread after stitching up the booklets? If so, how much?

3. Ms. Rochelle wants to put her 29 students into groups of 6. How many groups of 6 can she make? If she puts any remaining students in a smaller group, how many students will be in that group?

COMMON CORE

Lesson 14:   Solve division word problems with remainders.
Date: 8/28/13

engage^{ny}

3.E.15

4. A trainer gives his horse, Caballo, 7 gallons of water every day from a 57-gallon container. How many days will Caballo receive his full portion of water from the container? On which number day will the trainer need to refill the container of water?

5. Meliza has 43 toy soldiers. She lines them up in rows of 5 to fight imaginary zombies. How many of these rows can she make? After making as many rows of 5 as she can, she puts the remaining soldiers in the last row. How many soldiers are in that row?

6. Seventy-eight students are separated into groups of 8 for a field trip. How many groups are there? The remaining students form a smaller group of how many students?

Lesson 14:   Solve division word problems with remainders.
Date: 8/28/13

engage^{ny}   3.E.16

Name _____   Date _____

Show division using an array.	Show division using an area model.

1. 24 ÷ 4

Quotient = _____

Remainder = _____

Can you show 24 ÷ 4 with one rectangle? _____

2. 25 ÷ 4

Quotient = _____

Remainder = _____

Can you show 25 ÷ 4 with one rectangle? _____
Explain how you showed the remainder:

Lesson 15: Understand and solve division problems with a remainder using the array and area models.
Date: 8/28/13

engage^ny   3.E.25

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Solve using an array and area model. The first one is done for you.

Example: 25 ÷ 3

a.

8

b.

3
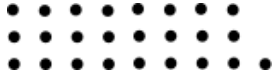
Quotient = 8   Remainder = 1

3.   44 ÷ 7

a.

b.

4.   34 ÷ 6

a.

b.

5.   37 ÷ 6

a.

b.

6.   46 ÷ 8

a.

b.

Lesson 15:   Understand and solve division problems with a remainder using the array and area models.

Date: 8/28/13

engage^ny   3.E.26

Name _____   Date _____

Show the division using disks. Relate your work on the place value chart to long division. Check your quotient and remainder by using multiplication and addition.

1. 7 ÷ 3

Ones

3 ⟌ 7

quotient = _____

remainder = _____

Check Your Work

2
× 3
‾‾‾‾‾

2. 67 ÷ 3

Tens	Ones

3 ⟌ 6 7

quotient = _____

remainder = _____

Check Your Work

3. 5 ÷ 2

Check Your Work

Ones

2 ⟌ 5

quotient = _____

remainder = _____

COMMON CORE

Lesson 16:   Understand and solve two-digit dividend division problems with a remainder in the ones place by using number disks.
Date: 8/28/13

engage^{ny}   3.E.37

4. 85 ÷ 2

$2 \overline{)85}$

Tens	Ones

quotient = _____

remainder = _____

Check Your Work

5. 5 ÷ 4

Ones

$4 \overline{)5}$

quotient = _____

remainder = _____

Check Your Work

6. 85 ÷ 4

Tens	Ones

$4 \overline{)85}$

quotient = _____

remainder = _____

Check Your Work

Lesson 16: Understand and solve two-digit dividend division problems with a remainder in the ones place by using number disks.

Date: 8/28/13

engage^ny   **3.E.38**

Name _____   Date _____

Show the division using disks. Relate your model to long division. Check your quotient and remainder by using multiplication and addition.

1. 7 ÷ 2

Ones

2 | 7

quotient = _____

remainder = _____

Check Your Work

2. 73 ÷ 2

Tens	Ones

2 | 7 3

quotient = _____

remainder = _____

Check Your Work

3. 6 ÷ 4

Ones

4 | 6

quotient = _____

remainder = _____

Check Your Work

COMMON CORE

Lesson 17:   Represent and solve division problems requiring decomposing a
              remainder in the tens.
Date: 8/28/13

engage^ny   3.E.49

4. 62 ÷ 4

Tens	Ones

4 ⟌ 6 2

quotient = _____

remainder = _____

Check Your Work

5. 8 ÷ 3

Ones

3 ⟌ 8

quotient = _____

remainder = _____

Check Your Work

6. 84 ÷ 3

Tens	Ones

3 ⟌ 8 4

quotient = _____

remainder = _____

Check Your Work

COMMON CORE

Lesson 17: Represent and solve division problems requiring decomposing a remainder in the tens.

Date: 8/28/13

engage^{ny}

3.E.50

Name _____   Date _____

Solve using the standard algorithm. Check your quotient and remainder by using multiplication and addition.

1. $84 \div 2$	2. $84 \div 4$
3. $48 \div 3$	4. $80 \div 5$
5. $79 \div 5$	6. $91 \div 4$

Lesson 18:   Find whole number quotients and remainders.
Date: 8/28/13

engage^{ny}

3.E.59

7. $91 \div 6$	8. $91 \div 7$
9. $87 \div 3$	10. $87 \div 6$
11. $94 \div 8$	12. $94 \div 6$

Lesson 18: Find whole number quotients and remainders.
Date: 8/28/13

engage^ny

3.E.60

Name _____   Date _____

1. When you divide 86 by 4 there is a remainder of 2. Model this problem with number disks. In the number disk model, how can you see that there is a remainder?

2. Francine says that 86 ÷ 4 is 20 with a remainder of 6. She reasons it is correct because (4 × 20) + 6 = 86. What mistake has Francine made? Explain how she can correct her work.

3. The number disk model is showing 67 ÷ 4. Complete the model. Explain what happens to the 2 tens that are remaining in the tens column.

Tens	Ones
10 10 10 10 10 10	1 1 1 1 1 1 1
10	
10	
10	
10	

4. Two friends share 76 blueberries.

   a. To count the blueberries, they have already put them into small bowls of 10. Draw a picture to show how the blueberries can be shared equally. Will they have to split apart any of the bowls of 10 blueberries when they share them?

   b. Explain how the friends can share the blueberries fairly.

5. Imagine you are drawing a comic strip showing how to solve the problem 72 ÷ 4 to new fourth graders. Create a script to explain how you can keep dividing after getting a remainder of 3 tens in the first step.

COMMON CORE

Lesson 19:   Explain remainders by using place value understanding and models.
Date: 8/28/13

engage^ny   **3.E.72**

Name _____   Date _____

1. Maria solved the following division problem by drawing an area model.

   a. Look at the area model. What division problem did Maria solve?
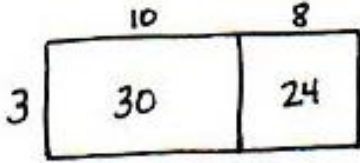
   b. Show a number bond to represent Maria's area model. Start with the total and then show how the total is split into two parts. Below the two parts, represent the total length using the distributive property and then solve.

   $(\underline{\quad} \div \underline{\quad}) \quad + \quad (\underline{\quad} \div \underline{\quad})$

   $= \quad \underline{\quad\quad} \quad + \quad \underline{\quad\quad}$

   $= \quad \underline{\quad\quad}$
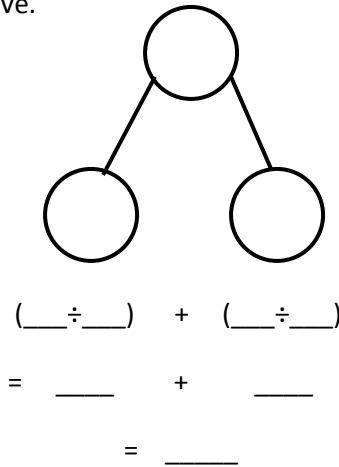
2. Solve 42 ÷ 3 using an area model. Draw a number bond and use the distributive property to solve for the unknown length.

---

3. Solve 60 ÷ 4 using an area model. Draw a number bond to show how you partitioned the area, and represent the division with a written method.

4. Solve 72 ÷ 4 using an area model. Explain, using words, pictures, or numbers, the connection of the distributive property to the area model.

5. Solve 96 ÷ 6 using an area model and the standard algorithm.

Name _____   Date _____

1. Solve 35 ÷ 2 using an area model. Use long division and the distributive property to record your work.

2. Solve 79 ÷ 3 using an area model. Use long division and the distributive property to record your work.

3. Paulina solved the following division problem by drawing an area model.
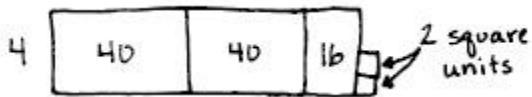
a. What division problem did she solve?
b. Show how Paulina's model can be represented using the distributive property.

![Common Core logo] COMMON CORE

Lesson 21:   Solve division problems with remainders using the area model.
Date: 8/28/13

engage^{ny}   **3.E.97**

Solve the following problems using the area model. Support the area model with long division or the distributive property.

4. 42 ÷ 3	5. 43 ÷ 3
6. 52 ÷ 4	7. 54 ÷ 4
8. 61 ÷ 5	9. 73 ÷ 3

10. Ninety-seven lunch trays were placed equally in 4 stacks. How many lunch trays were in each stack? How many lunch trays will be leftover?

Lesson 21: Solve division problems with remainders using the area model.
Date: 8/28/13

3.E.98

Name _____   Date _____

1. Record the factors of the given numbers as multiplication sentences and as a list in order from least to greatest. Classify each as prime (P) or composite (C). The first problem is done for you.

	Multiplication Sentences	**Factors**	**P or C**
a.	8 $1 \times 4 = 8$ $2 \times 4 = 8$	The factors of 8 are: 1, 2, 4, and 8	C
b.	10	The factors of 10 are:	
c.	11	The factors of 11 are:	
d.	14	The factors of 14 are:	
e.	17	The factors of 17 are:	
f.	20	The factors of 20 are:	
g.	22	The factors of 22 are:	
h.	23	The factors of 23 are:	
i.	25	The factors of 25 are:	
j.	26	The factors of 26 are:	
k.	27	The factors of 27 are:	
l.	28	The factors of 28 are:	

Lesson 22:   Find factor pairs for numbers to 100 and use understanding of factors to define prime and composite.

Date: 8/28/13

engage^{ny}   **3.F.13**

2. Find all factors for the following numbers and classify as prime or composite. Explain your classification of each as prime or composite.

Factor Pairs for 19	

Factor Pairs for 21	

Factor Pairs for 24	

3. Bryan says that only even numbers are composite.
   a. List all of the odd numbers less than 20 in numerical order.

   b. Use your list to show that Bryan's claim is false.

4. Julie has 27 grapes to divide evenly among 3 friends. She thinks there will be no leftovers. Use what you know about factor pairs to explain if Julie is correct.

COMMON CORE

Lesson 22: Find factor pairs for numbers to 100 and use understanding of factors to define prime and composite.

Date: 8/28/13

engage^ny

3.F.14

Name _____   Date _____

1. Explain your thinking or use division to answer the following.

a. Is 2 a factor of 72?	b. Is 2 a factor of 73?
c. Is 3 a factor of 72?	d. Is 2 a factor of 60?
e. Is 6 a factor of 72?	f. Is 4 a factor of 60?
g. Is 5 a factor of 72?	h. Is 8 a factor of 60?

2. Use the associative property to find more factors of 12 and 30.

    a. 12 = 6 × 2   b. 30 = ____ ×   5

          = (___ × 3) × 2   = (____ × 3) × 5

          = ___ × (3 × 2)   = ____ × (3 × 5)

          = ___ × 6   = ____ × 15

          = ___   = ____

3. In class, we used the associative property to show that when 6 is a factor, then 2 and 3 are factors, because 6 = 2 × 3. Use the fact that 10 = 5 × 2 to show that 2 and 5 are factors of 70, 80, and 90.

         70 = 10 × 7   80 = 10 × 8   90 = 10 × 9

4. The first statement is false. The second statement is true. Explain why using words, pictures, or numbers.

        If a number has 2 and 6 as factors, then it has 12 as a factor.

        If a number has 12 as a factor, then both 2 and 6 are factors.

COMMON CORE   **Lesson 23:**   Use division and the associative property to test for factors and observe patterns.

Date: 8/28/13

engage^{ny}   **3.F.25**

Name _____   Date _____

1. For each of the following, time yourself for 1 minute. See how many multiples you can write.

    a. Write the multiples of 5 starting from 75.

    b. Write the multiples of 4 starting from 40.

    c. Write the multiples of 6 starting from 24.

2. List the numbers that have 30 as a multiple.

3. Use mental math, division, or the associate property to solve. (Use scratch paper if you like.)

    a. Is 12 a multiple of 3? _____   Is 3 a factor of 12? _____

    b. Is 48 a multiple of 8? _____   Is 48 a factor of 8? _____

    c. Is 56 a multiple of 6? _____   Is 6 a factor of 56? _____

4. Can a prime number be a multiple of any other number except itself? Explain your reasons why.

5. Follow the directions below.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

a. Underline the multiples of 6. When a number is a multiple of 6, what are the possible values for the ones digit?

b. Draw a square around the multiples of 4. Look at the multiples of 4 that have an odd number in the tens place. What values do they have in the ones place?

c. Look at the multiples of 4 that have an even number in the tens place. What values do they have in the ones place? Do you think this pattern would continue with multiples of 4 that are larger than 100?

d. Circle the multiples of 9. Choose one. What do you notice about the sum of the digits? Choose another one. What do you notice about the sum of the digits?

Name _____   Date _____

1. A student used the Sieve of Eratosthenes to find all prime numbers less than 100. Create a step-by-step set of directions to show how it was completed. Use the word bank to help guide your thinking as you write the directions. Some words may be used just once, more than once, or not at all.

Word Bank

cross out

number   shade

circle   X   composite

multiple   prime

Directions for completing the Sieve of Eratosthenes activity:

3.F.46

2. What do all of the numbers that are crossed out have in common?

3. What do all of the circled numbers have in common?

4. There is one number that is neither crossed out nor circled. Why is it treated differently?

Lesson 25:   Explore properties of prime and composite numbers to 100 by using multiples.
Date: 8/28/13

engage^{ny}   3.F.47

Name _____   Date _____

1. Draw number disks to represent the following problems. Rewrite each in unit form and solve.

   a. $6 \div 3 =$ _____   ① ①   ① ①   ① ①
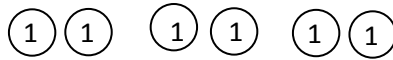
      6 ones ÷ 3 = _____ones

   b. $60 \div 3 =$ _____
      6 tens ÷ 3 = _____

   c. $600 \div 3 =$ _____
      _____ ÷ 3 = _____

   d. $6,000 \div 3 =$ _____
      _____ ÷ 3 = _____

2. Draw number disks to represent each problem. Rewrite each in unit form and solve.
   a. $12 \div 4 =$ _____

      12 ones ÷ 4 = _____ones

   b. $120 \div 4 =$ _____

      _____ ÷ 4 = _____

   c. $1,200 \div 4 =$ _____

      _____ ÷ 4 = _____

3. Rewrite each in unit form. Solve for the quotient.

a. 800 ÷ 4 = 200 8 hundreds ÷ 4 = 2 hundreds	b. 900 ÷ 3	c. 400 ÷ 2	d. 210 ÷ 3
e. 200 ÷ 4 20 tens ÷ 4 = ____ tens	f. 160 ÷ 2	g. 400 ÷ 5	h. 300 ÷ 5
i. 1,200 ÷ 3 12 hundreds ÷ 3 = ____ hundreds	j. 1,600 ÷ 4	k. 2,400 ÷ 4	l. 3,000 ÷ 5

4. A fleet of five fire engines carries a total of 20,000 liters of water. If each truck holds the same amount of water, how many liters of water does each truck carry?

5. Jamie drank 4 times as much juice as Brodie. Jamie drank 280 mL of juice. How much juice did Brodie drink?

6. A diner sold $2,400 worth of French fries in June, which was 4 times as much as it sold in May. How many dollars' worth of French fries were sold at the diner in May?

Date: 8/28/13

Name _____ Date _____

1. Divide. Use number disks to model each problem.

a. 346 ÷ 2	b. 528 ÷ 2
c. 516 ÷ 3	d. 729 ÷ 3

COMMON CORE

Lesson 27:   Represent and solve division problems with up to a three-digit
dividend numerically and with number disks requiring decomposing
a remainder in the hundreds place.

Date: 8/28/13

engage^ny   **3.G.27**

2. Model using number disks and record using the algorithm.

a. 648 ÷ 4	
Number Disks	Algorithm

b. 655 ÷ 5	
Number Disks	Algorithm

c. 964 ÷ 4	
Number Disks	Algorithm

COMMON CORE

Lesson 27: Represent and solve division problems with up to a three-digit dividend numerically and with number disks requiring decomposing a remainder in the hundreds place.

Date: 8/28/13

engage^ny   3.G.28

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Name _____ Date _____

1. Divide. Check your work by multiplying. Draw disks on a place value chart as needed.

a. 378 ÷ 2	b. 795 ÷ 3
c. 512 ÷ 4	d. 492 ÷ 4
e. 539 ÷ 3	f. 862 ÷ 5

g. 498 ÷ 3	h. 783 ÷ 5
i. 621 ÷ 4	j. 531 ÷ 4

2.   Selena's dog completed an obstacle course that was 932 meters long. There were 4 parts to the course, all equal in length. How long was 1 part of the course?

Lesson 28:   Represent and solve three-digit dividend division with divisors of 2, 3, 4, and 5 numerically.

Date: 8/28/13

engage^ny   3.G.39

Name _____   Date _____

1. Divide, then check using multiplication.

a. 2,464 ÷ 4	b. 1,828 ÷ 3
c. 9,426 ÷ 3	d. 6,587 ÷ 2
e. 5,425 ÷ 3	f. 5,425 ÷ 2

COMMON CORE

Lesson 29:   Represent numerically four-digit dividend division with divisors of 2,
                3, 4, and 5, decomposing a remainder up to three times.
Date: 8/28/13

engage^ny   3.G.49

g. 8,427 ÷ 3	h. 8,426 ÷ 3
i. 4,937 ÷ 4	j. 6,173 ÷ 5

2. A truck has four crates of apples. Each crate has an equal number of apples. Altogether, the truck is carrying 1,728 apples. How many apples are in three crates?

Lesson 29: Represent numerically four-digit dividend division with divisors of 2, 3, 4, and 5, decomposing a remainder up to three times.

Date: 8/28/13

engage^ny

3.G.50

Name _____   Date _____

Divide. Check your solutions by multiplying.

1. 409 ÷ 5

2. 503 ÷ 2

3. 831 ÷ 4

4. 602 ÷ 3

5. 720 ÷ 3

6. 6,250 ÷ 5

COMMON CORE

Lesson 30: Solve division problems with a zero in the dividend or with a zero in the quotient.

Date: 8/28/13

engage^{ny}

3.G.59

7. $2,060 \div 5$

8. $9,031 \div 2$

9. $6,218 \div 4$

10. $8,000 \div 4$

Name _____   Date _____

Solve the following problems. Draw tape diagrams to help you solve. Identify if the group size or the number of groups is unknown.

1. 500 mL of juice was shared equally by 4 children. How much juice did each child get?

2. Kelly separated 618 cookies into baggies. Each baggie contained 3 cookies. How many baggies of cookies did Kelly make?

3. Jeff biked the same distance each day for 5 days. If he travelled 350 miles altogether, how many miles did he travel each day?

4. A piece of ribbon 876 inches long was cut by a machine into 4-inch long strips to be made into bows. How many strips were cut?

5. Five Martians equally share 1,940 Groblarx fruits. How many Groblarx fruits will 3 of the Martians receive?

Lesson 31:   Interpret division word problems as either *number of groups*
unknown or *group size unknown*.
Date: 8/28/13

engage^ny   **3.G.72**

Name _____   Date _____

Solve the following problems. Draw tape diagrams to help you solve. If there is a remainder, shade in a small portion of the tape diagram to represent that portion of the whole.

1. Meneca bought a package of 435 party favors to give to the guests at her birthday party. She calculated that she could give 9 party favors to each guest. How many guests is she expecting?

2. 4,000 pencils were donated to an elementary school. If 8 classrooms shared the pencils equally, how many pencils did each class receive?

3. 2,008 kilograms of potatoes were packed into sacks weighing 8 kilograms each. How many sacks were packed?

Lesson 32: Interpret and find whole number quotients and remainders to solve one-step division word problems with larger divisors of 6, 7, 8, and 9.

Date: 8/28/13

engage^{ny}   **3.G.82**

4. A baker made 7 batches of muffins. There were a total of 252 muffins. If there were the same number of muffins in each batch, how many muffins were in a batch?

5. Samantha ran 3,003 meters in 7 days. If she ran the same distance each day, how far did Samantha run in 3 days?

COMMON CORE

Lesson 32:   Interpret and find whole number quotients and remainders to solve
              one-step division word problems with larger divisors of 6, 7, 8, and 9.
Date: 8/28/13

engage^ny   3.G.83

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Name _____   Date _____

1. Arabelle solved the following division problem by drawing an area model.
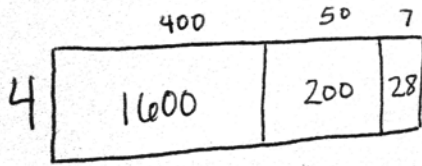
   a. What division problem did she solve?

   b. Show a number bond to represent Arabelle's area model and represent the total length using the distributive property.

---

2. a. Solve 816 ÷ 4 using the area model. There is no remainder in this problem.

   b. Draw a number bond and use a written method to record your work from (a).

3.   a.   Draw an area model to solve 549 ÷ 3.

   b.   Draw a number bond to represent this problem.

   c.   Record your work using the long division algorithm.

---

4.   a.   Draw an area model to solve 2,762 ÷ 2.

   b.   Draw a number bond to represent this problem.

   c.   Record your work using the long division algorithm.

Lesson 33:   Explain the connection of the area model of division to the long division algorithm for three- and four-digit dividends.

Date: 8/28/13

3.G.96

Name _____   Date _____

1. Use the associative property to rewrite each expression. Solve using disks and then complete the number sentences.

   a. 20×34

hundreds	tens	ones

   $= (\_\_\_\_ \times 10) \times 34$

   $= \_\_\_\_ \times (10 \times 34)$

   $= _____$

   b. 30×34

thousands	hundreds	tens	ones

   $= (3 \times 10) \times \_\_\_\_\_$

   $= 3 \times (10 \times \_\_\_)$

   $= _____$

   c. 30×42

thousands	hundreds	tens	ones

   $= (3 \times \_\_\_\_) \times \_\_\_\_\_$

   $= 3 \times (10 \times \_\_\_\_\_)$

   $= _____$

COMMON CORE

Lesson 34: Multiply two-digit multiples of 10 by two-digit numbers using a place value chart.
Date: 8/28/13

engage^ny

3.H.13

2. Use the associative property and number disks to solve.
    a. 20×16

    b. 40×32

3. Use the associative property without number disks to solve.
    a. 30×21 b. 60×42

4. Use the distributive property to solve the following. Distribute the second factor.
    a. 40×43 b. 70×23

Lesson 34: Multiply two-digit multiples of 10 by two-digit numbers using a place value chart.

Date: 8/28/13

3.H.14

Name _____   Date _____

Use an area model to represent the following expressions. Then record the partial products and solve.

1. 30 × 17
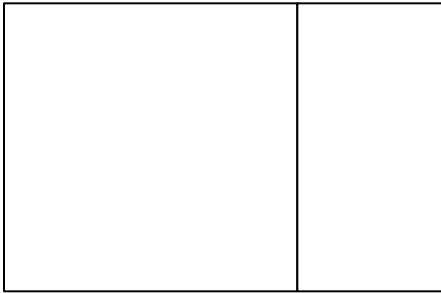
$$\begin{array}{r} 1\ 7 \\ \times\ \ 3\ 0 \\ \hline \\ +\ \underline{\hspace{3em}} \end{array}$$

2. 40 × 58
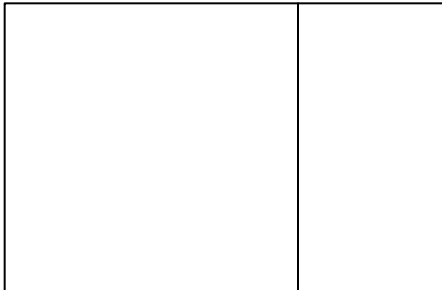
$$\begin{array}{r} 5\ 8 \\ \times\ \ 4\ 0 \\ \hline \\ +\ \underline{\hspace{3em}} \end{array}$$
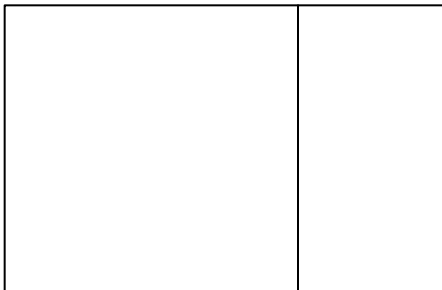
3. 50 × 38

$$\begin{array}{r} 3\ 8 \\ \times\ \ 5\ 0 \\ \hline \\ +\ \underline{\hspace{3em}} \end{array}$$

Draw an area model to represent the following expressions. Then record the partial products vertically and solve.

4. 60×19

5. 20×44

Visualize the area model and solve the following products numerically.

6. 20×88

7. 30×88

8. 70×47

9. 80×65

Lesson 35:   Multiply two-digit multiples of 10 by two-digit numbers using the area model.

Date: 8/28/13

engage^ny   3.H.25

Name _____   Date _____

1.

a. In each of the two models pictured below, write the expressions that determine the area of each of the four smaller rectangles.
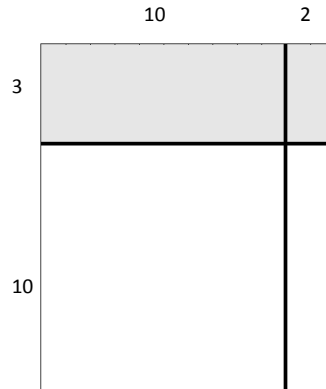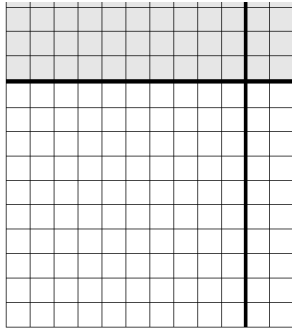
b. Using the distributive property, rewrite the area of the large rectangle as the sum of the areas of the four smaller rectangles. Express first in number form and then read in unit form.

$13 \times 12 = (3 \times \underline{\quad}) + (3 \times \underline{\quad}) + (10 \times \underline{\quad}) + (10 \times \underline{\quad})$

Use an area model to represent the following expressions. Record the partial products and solve.

2. 17×34
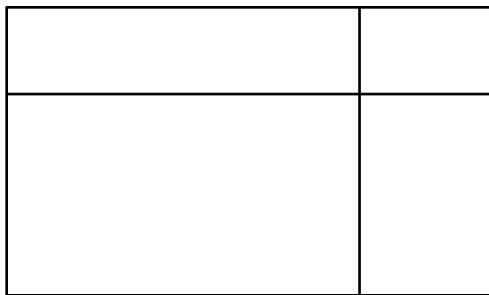
$$
\begin{array}{r}
3\ 4 \\
\times\ \ 1\ 7 \\
\hline
 \\
\hline
 \\
\hline
+\ \\
\hline
\end{array}
$$

COMMON CORE

Lesson 36: Multiply two-digit by two-digit numbers using four partial products.
Date: 8/28/13

engage^ny   3.H.36

Draw an area model to represent the following expressions. Record the partial products vertically and solve.

3. 45×18

4. 45×19

Visualize the area model and solve the following numerically using four partial products. (You may sketch an area model if it helps.)

5. 12×47

6. 23×93

7. 23×11

8. 23×22

Lesson 36: Multiply two-digit by two-digit numbers using four partial products.
Date: 8/28/13

engage^{ny}

3.H.37

Name _____   Date _____

1. Solve 26 × 34 using 4 partial products and 2 partial products. Remember to think in terms of units as you solve. Write an expression to find the area of each smaller rectangle in the area model.

```
                    3 4                                         3 4
      30      4    ×  2 6                        3 4          ×  2 6
   ┌─────┬──┐      ─────                    ┌──────────┐      ─────
 6 │     │  │      ─────   6 ones × 4 ones  6 │        │      ─────   6 ones ×34 ones
   ├─────┼──┤      ─────   6 ones × 3 tens    ├──────────┤    ─────
   │     │  │      ─────   2 tens × 4 ones 20 │        │      ─────   2 tens × 34 ones
20 │     │  │      ─────   2 tens × 3 tens     │        │      ─────
   └─────┴──┘      ─────                       └──────────┘
```

2. Solve using 4 partial products and 2 partial products. Remember to think in terms of units as you solve. Write an expression to find the area of each smaller rectangle in the area model.

```
                    4 1                                         4 1
      40      1    ×  8 2                        4 1          ×  8 2
   ┌─────┬──┐      ─────                    ┌──────────┐      ─────
 2 │     │  │      ─────   2 ones × 1 one   2 │        │      ─────   2 ones ×  41 ones
   ├─────┼──┤      ─────   2 ones × 4 tens    ├──────────┤    ─────
   │     │  │      ─────   8 tens × 1 one  80 │        │      ─────   8 tens × 41 ones
80 │     │  │      ─────   8 tens × 4 tens     │        │      ─────
   └─────┴──┘      ─────                       └──────────┘
```

engageny   **3.H.47**

3. Solve 52 × 26 using 2 partial products and an area model. Match each partial product to its area on the model.

4. Solve the following using 2 partial products. Visualize the area model to help you.

a.
```
      6 8
  ×   2 3
  _____
          ___ × ___
  _____
        ___ × ___
  _____
```

b.
```
      4 9
  ×   3 3
  _____
          ___ × ___
  _____
        ___ × ___
  _____
```

c.
```
      1 6
  ×   2 5
  _____
```

d.
```
      5 4
  ×   7 1
  _____
```

COMMON CORE | Lesson 37: Transition from four partial products to the standard algorithm for two-digit by two-digit multiplication.
Date: 8/28/13

engage^ny 3.H.48

Name _____   Date _____

1. Express 26 × 43 as two partial products using the distributive property. Solve.

43

6

20
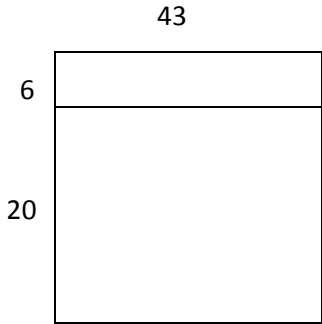
26 × 43 = (_____ forty-threes) + (_____ forty-threes)

```
    4  3
×   2  6
_____
            6 × _____

            20 × _____
_____
```

2. Express 47 × 63 as two partial products using the distributive property. Solve.

63

7

40
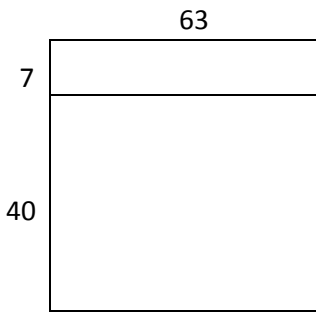
47 × 63 = (_____ sixty-threes) + (_____ sixty-threes)

```
    6  3
×   4  7
_____
            _____ × _____

            _____ × _____
_____
```

3.   Express 54 × 67 as two partial products using the distributive

property. Solve.

54 × 67 = (___×_____) + (___×_____)

```
    6  7
×   5  4
_____
          _____ × _____

          _____ × _____
_____
```

Lesson 38:   Transition from four partial products to the standard algorithm for
two-digit by two-digit multiplication.
Date: 8/28/13

engage^ny   3.H.58
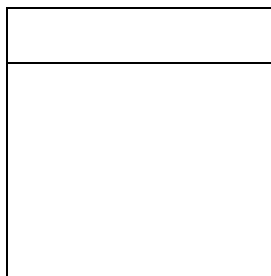
Solve the following using 2 partial products.

4.

$$
\begin{array}{r}
5\ 2 \\
\times \quad 3\ 4 \\
\hline
\end{array}
$$

_____ × _____

_____ × _____

Solve using the multiplication algorithm.

5.

$$
\begin{array}{r}
8\ 6 \\
\times \quad 5\ 6 \\
\hline
\end{array}
$$

_____ × _____

_____ × _____

6. 54×52

7. 44×76

8. 63×63

9. 68×79

Lesson 38: | Transition from four partial products to the standard algorithm for two-digit by two-digit multiplication.

Date: | 8/28/13

engage^ny | 3.H.59

Name _____   Date _____

1. Determine the area and perimeter of the rectangle.

8 cm

2 cm
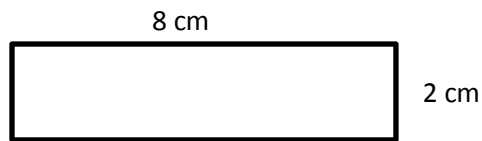
2. Determine the perimeter of the rectangle.

347 m

99 m
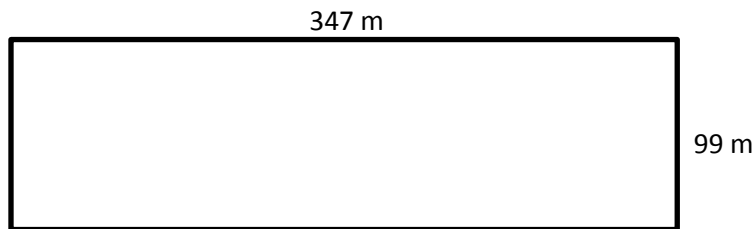
3. A rectangle with whole number side lengths has an area of 24 square centimeters and a perimeter of 22 centimeters. Find the length and width of the rectangle.

Name _____   Date _____

1. A balance beam at a playground is 2 feet wide. It is 6 times as long as it is wide.

    a. Label the diagram with the dimensions of the balance beam.

    b. Find the perimeter of the balance beam.

2. A blanket is 4 feet wide. It is 3 times as long as it is wide.

    a. Draw a diagram of the blanket and label its dimensions.

    b. Find the perimeter and area of the blanket.

Lesson 2: | Solve multiplicative comparison word problems by applying the area and perimeter formulas.
Date: | 8/28/13

engage^ny   3.A.27

Name _____   Date _____

Solve the following problem. Use pictures, words, or diagrams to help you solve.

1. A poster is 3 times as long as it is wide. A banner is 5 times as long as it is wide. Both the banner and the poster have perimeters of 24 inches. What are the length and width of the poster and the banner?

Lesson 3:   Demonstrate understanding of area and perimeter formulas by
solving multi-step real world problems.
Date: 8/28/13

3.A.40

Name _____   Date _____

1. Complete the following equations.

   a. $5 \times 10 =$ _____

   b. _____ $\times 5 = 500$

   c. $5{,}000 =$ _____ $\times 1{,}000$

   d. $10 \times 2 =$ _____

   e. _____ $\times 20 = 2{,}000$

   f. $2{,}000 = 10 \times$ _____

   g. $100 \times 18 =$ _____

   h. _____ $= 10 \times 32$

   i. $4{,}800 =$ _____ $\times 1{,}000$

   j. $60 \times 4 =$ _____

   k. $5 \times 600 =$ _____

   l. $8{,}000 \times 5 =$ _____

Lesson 4: Interpret and represent patterns when multiplying by 10, 100, and 1,000 in arrays and numerically.
Date: 8/28/13

engage^ny

3.B.11

Name _____   Date _____

Draw number disks to represent the value of the following expressions.

1. $4 \times 200 =$ _____

     4 times _____ _____ is _____ _____ .

$$\begin{array}{r} 2\,0\,0 \\ \times \qquad 4 \\ \hline \end{array}$$

2. $4 \times 2,000 =$ _____

     ____ times _____ _____ is _____ _____ .

$$\begin{array}{r} 2,0\,0\,0 \\ \times \qquad 4 \\ \hline \end{array}$$

3. Find the product.

a. $30 \times 3 =$	b. $8 \times 20 =$	c. $6 \times 400 =$	d. $2 \times 900 =$
e. $8 \times 80 =$	f. $30 \times 4 =$	g. $500 \times 6 =$	h. $8 \times 5,000 =$

4. Bonnie worked for 7 hours each day for 30 days. How many hours did she work altogether?

COMMON CORE

Lesson 5:   Multiply multiples of 10, 100, and 1,000 by single digits, recognizing patterns.
Date: 8/28/13

engage^{ny}   3.B.21

Name _____   Date _____

Represent the following problem by drawing disks in the place value chart.

1. To solve 20 × 30, think:

    (2 tens × 3) × 10 = _____

    20 × (3 × 10) = _____

    20 × 30 = _____

Hundreds	Tens	Ones

2. Draw an area model to represent 20 × 30.

    2 tens × 3 tens = _____ _____

3. Every night, Eloise reads 40 pages. How many pages total does she read at night during the 30 days of November?

COMMON CORE

Lesson 6:   Multiply two-digit multiples of 10 by two-digit multiples of 10 with
              the area model.
Date: 8/28/13

engage^{ny}   3.B.32

Name _____ Date _____

1. Represent the following expressions with disks, regrouping as necessary. To the right, record the partial products vertically.

   a. 6×41

   b. 7×31

Lesson 7: Use place value disks to represent two-digit by one-digit multiplication.

Date: 8/28/13

3.C.12

Name _____   Date _____

1. Represent the following expressions with disks, regrouping as necessary. To the right, record the partial products vertically.

   a. 4×513

   b. $3 \times 1,054$

Lesson 8: Extend the use of place value disks to represent three- and four-
digit by one-digit multiplication.
Date: 8/28/13

engage^{ny}   **3.C.24**

Name _____   Date _____

1. Solve using the standard algorithm.

a.	b.
6 0 8 × 9	5 7 4 × 7

2. Morgan is 23 years old. Her grandfather is 4 times as old. How old is her grandfather?

Lesson 9: Multiply three- and four-digit numbers by one-digit numbers
applying the standard algorithm.
Date: 8/28/13

engage^{ny}   3.C.35

Name _____   Date _____

1. Solve using the standard algorithm.

a. 2,348 × 6	b. 1,679 × 7

2. A farmer planted 4 rows of sunflowers. There were 1,205 plants in each row. How many sunflowers did he plant?

Lesson 10:   Multiply three- and four-digit numbers by one-digit numbers applying the standard algorithm.
Date: 8/28/13

engage^{ny}   **3.C.45**

Name _____   Date _____

1. Solve using the standard algorithm, the area model, the distributive property, or the partial products method.

    $2{,}809 \times 4$

2. The monthly school newspaper is 9 pages long. Mrs. Smith needs to print 675 copies. How many sheets of paper will she use?

COMMON CORE

Lesson 11:   Connect the area model and the partial products method to the standard algorithm.

Date: 8/28/13

engage**ny**   3.C.56

Name _____　　　　Date _____

Use the RDW process to solve the following problem.

1. Jennifer has 256 pink beads. Stella has 3 times as many beads as Jennifer. Tiah has 104 more beads than Stella. How many beads does Tiah have?

Name _____   Date _____

1. Solve using the RDW process.

    a. Michael earns $9 per hour. He works 28 hours each week. How much will he earn in 6 weeks?

    b. David earns $8 per hour. He works 40 hours each week. How much will he earn in 6 weeks?

    c. After 6 weeks who earned more money? How much more money?

Lesson 13:   Use multiplication, addition, or subtraction to solve multi-step word problems.

Date: 8/28/13

3.D.24

Name _____   Date _____

Solve the following problem. Use the RDW process.

1. Fifty-three students are going on a field trip to the zoo. Before the trip, a teacher forms groups of students and assigns a chaperone to each group. As much as she can, the teacher divides the students into groups of 6. How many groups of students will there be? Will each group have 6 students? How many total chaperones are needed?

| **Lesson 14:** | Solve division word problems with remainders. |
| **Date:** | 8/28/13 |

engage^ny

Name _____   Date _____

Solve using an array and area model.

1. 27 ÷ 5

    a.   b.

2. 32 ÷ 6

    a.   b.

Lesson 15:   Understand and solve division problems with a remainder using the
                  array and area models.

Date: 8/28/13

engage^ny

3.E.24

Name _____   Date _____

Show the division using disks. Relate your work on the place value chart to long division. Check your quotient and remainder by using multiplication and addition.

1. $5 \div 3$

Ones

$3 \overline{\smash{)}5}$

quotient = _____

remainder = _____

Check Your Work

2. $65 \div 3$

Tens	Ones

$3 \overline{\smash{)}65}$

quotient = _____

remainder = _____

Check Your Work

Lesson 16: Understand and solve two-digit dividend division problems with a remainder in the ones place by using number disks.

Date: 8/28/13

engage^ny   3.E.36

Name _____   Date _____

Show the division using disks. Relate your model to long division. Check your quotient by using multiplication and addition.

1. 5 ÷ 4

Ones

4 | 5   quotient = _____

             remainder = _____

Check Your Work

2. 56 ÷ 4

Tens	Ones

4 | 5 6   quotient = _____

             remainder = _____

Check Your Work

COMMON CORE   Lesson 17: Represent and solve division problems requiring decomposing a remainder in the tens.
              Date: 8/28/13

engage^ny   3.E.48

Name _____   Date _____

Solve using the standard algorithm. Check your quotient and remainder by using multiplication and addition.

1. $93 \div 7$	2. $99 \div 8$

Name _____   Date _____

1. Molly's photo album has a total of 97 pictures. Each page of the album holds 6 pictures. How many pages can Molly fill? Will there be any pictures left? If so, how many? Use number disks to solve.

2. Marti's photo album has a total of 45 pictures. Each page holds 4 pictures. She said she can only fill 10 pages completely. Do you agree? Explain why or why not.

Name _____   Date _____

1. Tony drew the following area model to find an unknown length. What division equation did he model?

2. Solve 42 ÷ 3 using the area model, a number bond, and a written method.
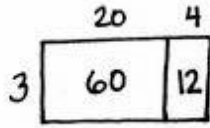
Name _____   Date _____

1. Kyle drew the following area model to find an unknown length. What division equation did he model?

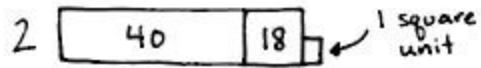2. Solve 93 ÷ 4 using the area model, long division, and the distributive property.

COMMON CORE   **Lesson 21:**   Solve division problems with remainders using the area model.

Date: 8/28/13

engage^{ny}   3.E.96

Name _____   Date _____

Record the factors of the given numbers as multiplication sentences and as a list in order from least to greatest. Classify each as prime (P) or composite (C).

	Multiplication Sentences	**Factors**	**Prime (P) or Composite (C)**
a.	9	The factors of 9 are:	
b.	12	The factors of 12 are:	
c.	19	The factors of 19 are:	

Lesson 22:   Find factor pairs for numbers to 100 and use understanding of factors to define prime and composite.
Date: 8/28/13

engage^ny   **3.F.12**

Name _____   Date _____

1. Explain your thinking or use division to answer the following.

a. Is 2 a factor of 34?	b. Is 3 a factor of 34?
c. Is 4 a factor of 72?	d. Is 3 a factor of 72?

2. Use the associative property to explain why the following statement is true.

   Any number that has 9 as a factor also has 3 as a factor.

Name _____   Date _____

1. Fill in the unknown multiples of 11.

   5 × 11 = _____

   6 × 11 = _____

   7 × 11 = _____

   8 × 11 = _____

   9 × 11 = _____

2. Complete the pattern of multiples by skip-counting.

   7, 14, _____, 28, _____, _____, _____, _____, _____, _____

3.
   a. List the numbers that have 18 as a multiple.

   b. What are the factors of 18?

   c. Are your two lists the same? Why or why not?

Lesson 24:   Determine whether a whole number is a multiple of another number.

Date: 8/28/13

engage^{ny}   **3.F.35**

Name _____   Date _____

Use the calendar below to complete the following:

a. Cross off all composite numbers.

b. Circle all of the prime numbers.

c. List any remaining numbers.

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

Name _____   Date _____

1. Rewrite each in unit form. Solve for the quotient.

a. $600 \div 3 = 200$	b. $1{,}200 \div 6$	c. $2{,}100 \div 7$	d. $3{,}200 \div 8$
6 hundreds ÷ 3 = __ hundreds			

2. Hudson and 8 of his friends found a bag of pennies. There were 360 pennies which they shared equally. How many pennies did each person get?

Name _____   Date _____

Divide. Use number disks to model each problem. Then solve using the algorithm.

1. 423 ÷ 3

Number Disks   Algorithm

2. 564 ÷ 4

Number Disks   Algorithm

Lesson 27:   Represent and solve division problems with up to a three-digit
dividend numerically and with number disks requiring decomposing
a remainder in the hundreds place.
Date: 8/28/13

3.G.26

Name _____   Date _____

1. Divide. Check your work by multiplying. Draw disks on a place value chart as needed.

a. $776 \div 2$	b. $596 \div 3$

2. A carton of milk contains 128 ounces. Sara's son drinks 4 ounces of milk at each meal. How many 4-ounce servings will one carton of milk provide?

Name _____   Date _____

1. Divide, then check using multiplication.

a. $1,770 \div 3$	b. $8,470 \div 5$

2. The post office had an equal number of each of 4 types of stamps. There were a total of 1,784 stamps. How many of each type of stamp did the post office have?

Lesson 29: Represent numerically four-digit dividend division with divisors of 2, 3, 4, and 5, decomposing a remainder up to three times.

Date: 8/28/13

engage^ny   **3.G.48**

Name _____   Date _____

Divide. Check your solutions by multiplying.

1.   380 ÷ 4

2.   7,040 ÷ 3

COMMON CORE

Lesson 30:   Solve division problems with a zero in the dividend or with a zero in
the quotient.
Date: 8/28/13

engage^ny

3.G.58

Name _____   Date _____

Solve the following problems. Draw tape diagrams to help you solve. Identify if the group size or the number of groups is unknown.
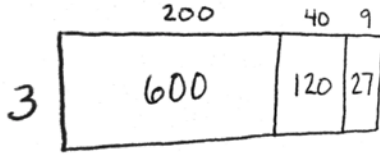
1. 572 cars were parked in a parking garage. The same number of cars parked on each floor. If there were 4 floors, how many cars were parked on each floor?

2. 356 kg of flour were packed into sacks holding 2 kg each. How many sacks were packed?

![COMMON CORE] **Lesson 31:**   Interpret division word problems as either *number of groups*
                                 unknown or *group size unknown*.   **engage**^ny   **3.G.70**
                 Date: 8/28/13

Name _____　　　　Date _____

Solve the following problems. Draw tape diagrams to help you solve. If there is a remainder, shade in a small portion of the tape diagram to represent that portion of the whole.

1. Mr. Foote needs exactly 6 folders for each fourth grade student at Hoover Elementary School. If he bought 726 folders, how many students can he supply folders to?

2. Mrs. Terrance has a large bin of 236 crayons. He divides them equally among four containers. How many crayons does Mrs. Terrance have in each container?

Name _____   Date _____

1. Anna solved the following division problem by drawing an area model.

   a. What division problem did she solve?

   b. Show a number bond to represent Anna's area model and represent the total length using the distributive property.

---

2. a. Draw an area model to solve 1,368 ÷ 2.

   b. Draw a number bond to represent this problem.

   c. Record your work using the long division algorithm.

Lesson 33: Explain the connection of the area model of division to the long division algorithm for three- and four-digit dividends.

Date: 8/28/13

engage^ny   **3.G.94**

Name _____   Date _____

1. Use the associative property to rewrite each expression. Solve using disks and then complete the number sentences.

   a. $20 \times 41 =$

   _____ × _____ × _____ =

hundreds	tens	ones

2. Distribute 32 as 30 + 2 and solve.

   60×32

Lesson 34: Multiply two-digit multiples of 10 by two-digit numbers using a place value chart.

Date: 8/28/13
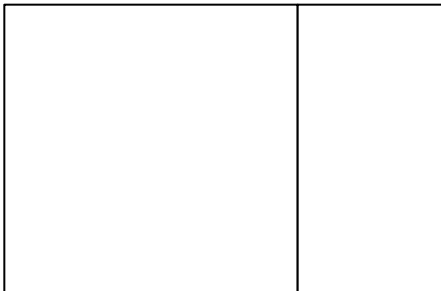
engage^{ny}   3.H.12

Name _____ Date _____

Use an area model to represent the following expressions. Then record the partial products and solve.

1. 30 × 93

```
        9 3
   ×    3 0
   _____

+  _____
```

2. 40 × 76

```
        7 6
   ×    4 0
   _____

+  _____
```

Lesson 35:   Multiply two-digit multiples of 10 by two-digit numbers using the area model.

Date: 8/28/13

engage^{ny}

3.H.23
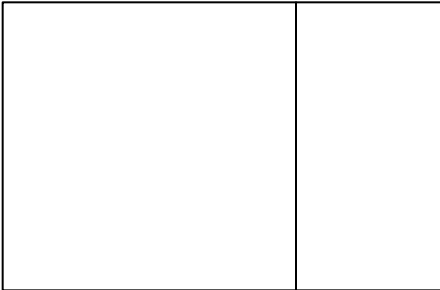
Name _____ Date _____

Record the partial products to solve.

Draw an area model first to support your work, or draw the area model last to check your work.

1. 26×43

2. 17×55

Name _____   Date _____

1. Solve 43 × 22 using 4 partial products and 2 partial products. Remember to think in terms of units as you solve. Write an expression to find the area of each smaller rectangle in the area model.

	20	2
3		
40		

```
  2 2
×   4 3
_____
            3 ones × 2 ones
_____
            3 ones × 2 tens
_____
            4 tens  × 2 ones
_____
            4 tens × 2 tens
_____
```

	22
3	
40	

```
  2 2
×   4 3
_____
            3 ones × 22 ones
_____
            4 tens × 22 ones
_____
```

2. Solve the following using 2 partial products.

```
  6 4
×   1 5
_____
            5 ones × 64 ones
_____
            1 ten × 64 ones
_____
```

Lesson 37: Transition from four partial products to the standard algorithm for two-digit by two-digit multiplication.
Date: 8/28/13

engage^ny   **3.H.46**

Name _____   Date _____

Solve using the multiplication algorithm.

1.

$$
\begin{array}{r}
7\ 2 \\
\times\quad 4\ 3 \\
\hline
\end{array}
$$

_____ × _____

_____ × _____

2. 35 × 53

Lesson 38:   Transition from four partial products to the standard algorithm for
                two-digit by two-digit multiplication.
Date: 8/28/13

engage^ny   3.H.57

A

Correct _____

Solve.

1	2 x 2 =		23	3 x ___ = 21	
2	2 x ___ = 4		24	3 x 3 =	
3	3 x 3 =		25	4 x ___ = 20	
4	3 x ___ = 9		26	4 x ___ = 32	
5	5 x 5 =		27	4 x 4 =	
6	5 x ___ = 25		28	5 x ___ = 20	
7	1 x ___ = 1		29	5 x ___ = 40	
8	1 x 1 =		30	5 x 5 =	
9	4 x ___ = 16		31	6 x ___ = 18	
10	4 x 4 =		32	6 x ___ = 54	
11	7 x ___ = 49		33	6 x 6 =	
12	7 x 7 =		34	7 x ___ = 28	
13	8 x 8 =		35	7 x ___ = 56	
14	8 x ___ = 64		36	7 x 7 =	
15	10 x 10 =		37	8 x ___ = 24	
16	10 x ___ = 100		38	8 x ___ = 72	
17	9 x ___ = 81		39	8 x 8 =	
18	9 x 9 =		40	9 x ___ = 36	
19	2 x ___ = 10		41	9 x ___ = 63	
20	2 x ___ = 18		42	9 x 9 =	
21	2 x 2 =		43	9 x ___ = 54	
22	3 x ___ = 12		44	10 x 10 =	

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B
Solve.

Improvement _____   # Correct _____

1	5 x 5 =		23	3 x ___ = 24	
2	5 x ___ = 25		24	3 x 3 =	
3	2 x 2 =		25	4 x ___ = 12	
4	2 x ___ = 4		26	4 x ___ = 28	
5	3 x 3 =		27	4 x 4 =	
6	3 x ___ = 9		28	5 x ___ = 10	
7	1 x 1 =		29	5 x ___ = 35	
8	1 x ___ = 1		30	5 x 5 =	
9	4 x ___ = 16		31	6 x ___ = 24	
10	4 x 4 =		32	6 x ___ = 48	
11	6 x ___ = 36		33	6 x 6 =	
12	6 x 6 =		34	7 x ___ = 21	
13	9 x 9 =		35	7 x ___ = 63	
14	9 x ___ = 81		36	7 x 7 =	
15	10 x 10 =		37	8 x ___ = 32	
16	10 x ___ = 100		38	8 x ___ = 56	
17	7 x ___ = 49		39	8 x 8 =	
18	7 x 7 =		40	9 x ___ = 27	
19	2 x ___ = 8		41	9 x ___ = 72	
20	2 x ___ = 16		42	9 x 9 =	
21	2 x 2 =		43	9 x ___ = 63	
22	3 x ___ = 15		44	10 x 10 =	

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COMMON CORE

engage^ny   3.A.38

A

Correct _____

Multiply.

1	3 x 2 =		23	7 x 5 =	
2	30 x 2 =		24	700 x 5 =	
3	300 x 2 =		25	8 x 3 =	
4	3000 x 2 =		26	80 x 3 =	
5	2 x 3000 =		27	9 x 4 =	
6	2 x 4 =		28	9000 x 4 =	
7	2 x 40 =		29	7 x 6 =	
8	2 x 400 =		30	7 x 600 =	
9	2 x 4000 =		31	8 x 9 =	
10	3 x 3 =		32	8 x 90 =	
11	30 x 3 =		33	6 x 9 =	
12	300 x 3 =		34	6 x 9000 =	
13	3000 x 3 =		35	900 x 9 =	
14	4000 x 3 =		36	8000 x 8 =	
15	400 x 3 =		37	7 x 70 =	
16	40 x 3 =		38	6 x 600 =	
17	5 x 3 =		39	800 x 7 =	
18	500 x 3 =		40	7 x 9000 =	
19	7 x 2 =		41	200 x 5 =	
20	70 x 2 =		42	5 x 60 =	
21	4 x 4 =		43	4000 x 5 =	
22	4000 x 4 =		44	800 x 5 =	

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B   Improvement _____   # Correct _____

Multiply.

1	4 x 2 =		23	9 x 5 =	
2	40 x 2 =		24	900 x 5 =	
3	400 x 2 =		25	8 x 4 =	
4	4000 x 2 =		26	80 x 4 =	
5	2 x 4000 =		27	9 x 3 =	
6	3 x 3 =		28	9000 x 3 =	
7	3 x 30 =		29	6 x 7 =	
8	3 x 300 =		30	6 x 700 =	
9	3 x 3000 =		31	8 x 7 =	
10	2 x 3 =		32	8 x 70 =	
11	20 x 3 =		33	9 x 6 =	
12	200 x 3 =		34	9 x 6000 =	
13	2000 x 3 =		35	800 x 8 =	
14	3000 x 4 =		36	9000 x 9 =	
15	300 x 4 =		37	7 x 700 =	
16	30 x 4 =		38	6 x 60 =	
17	3 x 5 =		39	700 x 8 =	
18	30 x 5 =		40	9 x 7000 =	
19	6 x 2 =		41	20 x 5 =	
20	60 x 2 =		42	5 x 600 =	
21	4 x 4 =		43	400 x 5 =	
22	400 x 4 =		44	8000 x 5 =	

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COMMON CORE

Lesson 7: Use place value disks to represent two-digit by one-digit multiplication.

Date: 8/28/13

engageny

3.C.9

A

Multiply.

Correct _____

1	1 x 4 =		23	21 x 3 =	
2	10 x 4 =		24	121 x 3 =	
3	11 x 4 =		25	42 x 2 =	
4	1 x 2 =		26	142 x 2 =	
5	20 x 2 =		27	242 x 2 =	
6	21 x 2 =		28	342 x 2 =	
7	2 x 3 =		29	442 x 2 =	
8	30 x 3 =		30	3 x 3 =	
9	32 x 3 =		31	13 x 3 =	
10	3 x 5 =		32	213 x 3 =	
11	20 x 5 =		33	1213 x 3 =	
12	23 x 5 =		34	2113 x 3 =	
13	3 x 3 =		35	2131 x 3 =	
14	40 x 3 =		36	2311 x 3 =	
15	43 x 3 =		37	24 x 4 =	
16	4 x 2 =		38	35 x 5 =	
17	70 x 2 =		39	54 x 3 =	
18	74 x 2 =		40	63 x 6 =	
19	2 x 3 =		41	125 x 4 =	
20	60 x 3 =		42	214 x 3 =	
21	62 x 3 =		43	5213 x 2 =	
22	63 x 3 =		44	2135 x 4 =	

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Lesson 13: Use multiplication, addition, or subtraction to solve multi-step word problems.
Date: 8/28/13

COMMON CORE

engage^{ny}

3.D.20

B

Improvement _____   # Correct _____

Multiply.

1	1 x 6 =		23	21 x 4 =	
2	10 x 6 =		24	121 x 4 =	
3	11 x 6 =		25	24 x 2 =	
4	1 x 2 =		26	124 x 2 =	
5	30 x 2 =		27	224 x 2 =	
6	31 x 2 =		28	324 x 2 =	
7	3 x 3 =		29	424 x 2 =	
8	20 x 3 =		30	3 x 2 =	
9	23 x 3 =		31	13 x 2 =	
10	5 x 5 =		32	213 x 2 =	
11	20 x 5 =		33	1213 x 2 =	
12	25 x 5 =		34	2113 x 2 =	
13	4 x 4 =		35	2131 x 2 =	
14	30 x 4 =		36	2311 x 2 =	
15	34 x 4 =		37	23 x 4 =	
16	4 x 2 =		38	53 x 5 =	
17	90 x 2 =		39	45 x 3 =	
18	94 x 2 =		40	36 x 6 =	
19	2 x 3 =		41	215 x 3 =	
20	40 x 3 =		42	125 x 4 =	
21	42 x 3 =		43	5312 x 2 =	
22	43 x 3 =		44	1235 x 4 =	

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Lesson 13: Use multiplication, addition, or subtraction to solve multi-step word problems.

Date: 8/28/13

engage^{ny}   3.D.21

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A

Correct _____

Add.

1	20 ÷ 2 =		23	68 ÷ 2 =	
2	4 ÷ 2 =		24	96 ÷ 3 =	
3	24 ÷ 2 =		25	86 ÷ 2 =	
4	30 ÷ 3 =		26	93 ÷ 3 =	
5	6 ÷ 3 =		27	88 ÷ 4 =	
6	36 ÷ 3 =		28	99 ÷ 3 =	
7	40 ÷ 4 =		29	66 ÷ 3 =	
8	8 ÷ 4 =		30	66 ÷ 2 =	
9	48 ÷ 4 =		31	40 ÷ 4 =	
10	2 ÷ 2 =		32	80 ÷ 4 =	
11	40 ÷ 2 =		33	60 ÷ 4 =	
12	42 ÷ 2 =		34	68 ÷ 4 =	
13	3 ÷ 3 =		35	20 ÷ 2 =	
14	60 ÷ 3 =		36	40 ÷ 2 =	
15	63 ÷ 3 =		37	30 ÷ 2 =	
16	4 ÷ 4 =		38	36 ÷ 2 =	
17	80 ÷ 4 =		39	30 ÷ 3 =	
18	84 ÷ 4 =		40	39 ÷ 3 =	
19	40 ÷ 5 =		41	45 ÷ 3 =	
20	50 ÷ 5 =		42	60 ÷ 3 =	
21	60 ÷ 5 =		43	57 ÷ 3 =	
22	70 ÷ 5 =		44	51 ÷ 3 =	

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B

Improvement _____   # Correct _____

Add.

1	30 ÷ 3 =		23	86 ÷ 2 =	
2	9 ÷ 3 =		24	69 ÷ 3 =	
3	39 ÷ 3 =		25	68 ÷ 2 =	
4	20 ÷ 2 =		26	96 ÷ 3 =	
5	6 ÷ 2 =		27	66 ÷ 3 =	
6	26 ÷ 2 =		28	99 ÷ 3 =	
7	80 ÷ 4 =		29	88 ÷ 4 =	
8	4 ÷ 4 =		30	88 ÷ 2 =	
9	84 ÷ 4 =		31	40 ÷ 4 =	
10	2 ÷ 2 =		32	80 ÷ 4 =	
11	60 ÷ 2 =		33	60 ÷ 4 =	
12	62 ÷ 2 =		34	64 ÷ 4 =	
13	3 ÷ 3 =		35	20 ÷ 2 =	
14	90 ÷ 3 =		36	40 ÷ 2 =	
15	93 ÷ 3 =		37	30 ÷ 2 =	
16	8 ÷ 4 =		38	38 ÷ 2 =	
17	40 ÷ 4 =		39	30 ÷ 3 =	
18	48 ÷ 4 =		40	36 ÷ 3 =	
19	50 ÷ 5 =		41	42 ÷ 3 =	
20	60 ÷ 5 =		42	60 ÷ 3 =	
21	70 ÷ 5 =		43	54 ÷ 3 =	
22	80 ÷ 5 =		44	48 ÷ 3 =	

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Lesson 19: Explain remainders by using place value understanding and models.
Date: 8/28/13

engage**ny**   3.E.67

A   # Correct _____

1	8 ÷ 2	Q = _____ R = _____	23	6 ÷ 2	Q = _____ R = _____
2	9 ÷ 2	Q = _____ R = _____	24	7 ÷ 2	Q = _____ R = _____
3	4 ÷ 4	Q = _____ R = _____	25	3 ÷ 3	Q = _____ R = _____
4	5 ÷ 4	Q = _____ R = _____	26	4 ÷ 3	Q = _____ R = _____
5	7 ÷ 5	Q = _____ R = _____	27	6 ÷ 4	Q = _____ R = _____
6	8 ÷ 5	Q = _____ R = _____	28	7 ÷ 4	Q = _____ R = _____
7	5 ÷ 3	Q = _____ R = _____	29	6 ÷ 6	Q = _____ R = _____
8	6 ÷ 3	Q = _____ R = _____	30	7 ÷ 6	Q = _____ R = _____
9	8 ÷ 4	Q = _____ R = _____	31	4 ÷ 2	Q = _____ R = _____
10	9 ÷ 4	Q = _____ R = _____	32	5 ÷ 2	Q = _____ R = _____
11	2 ÷ 2	Q = _____ R = _____	33	9 ÷ 3	Q = _____ R = _____
12	3 ÷ 2	Q = _____ R = _____	34	9 ÷ 5	Q = _____ R = _____
13	7 ÷ 3	Q = _____ R = _____	35	7 ÷ 7	Q = _____ R = _____
14	8 ÷ 3	Q = _____ R = _____	36	9 ÷ 9	Q = _____ R = _____
15	9 ÷ 3	Q = _____ R = _____	37	13 ÷ 4	Q = _____ R = _____
16	8 ÷ 6	Q = _____ R = _____	38	18 ÷ 5	Q = _____ R = _____
17	9 ÷ 6	Q = _____ R = _____	39	21 ÷ 6	Q = _____ R = _____
18	5 ÷ 5	Q = _____ R = _____	40	24 ÷ 7	Q = _____ R = _____
19	6 ÷ 5	Q = _____ R = _____	41	29 ÷ 8	Q = _____ R = _____
20	8 ÷ 8	Q = _____ R = _____	42	43 ÷ 6	Q = _____ R = _____
21	9 ÷ 8	Q = _____ R = _____	43	53 ÷ 6	Q = _____ R = _____
22	9 ÷ 9	Q = _____ R = _____	44	82 ÷ 9	Q = _____ R = _____

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3.E.92

B   Improvement _____   # Correct _____

1	9 ÷ 8	Q = ____ R = ____	23	4 ÷ 2	Q = ____ R = ____
2	8 ÷ 8	Q = ____ R = ____	24	5 ÷ 2	Q = ____ R = ____
3	9 ÷ 6	Q = ____ R = ____	25	8 ÷ 4	Q = ____ R = ____
4	8 ÷ 6	Q = ____ R = ____	26	9 ÷ 4	Q = ____ R = ____
5	5 ÷ 5	Q = ____ R = ____	27	9 ÷ 3	Q = ____ R = ____
6	6 ÷ 5	Q = ____ R = ____	28	8 ÷ 3	Q = ____ R = ____
7	7 ÷ 4	Q = ____ R = ____	29	9 ÷ 5	Q = ____ R = ____
8	6 ÷ 4	Q = ____ R = ____	30	6 ÷ 6	Q = ____ R = ____
9	5 ÷ 3	Q = ____ R = ____	31	7 ÷ 6	Q = ____ R = ____
10	6 ÷ 3	Q = ____ R = ____	32	9 ÷ 9	Q = ____ R = ____
11	2 ÷ 2	Q = ____ R = ____	33	7 ÷ 7	Q = ____ R = ____
12	3 ÷ 2	Q = ____ R = ____	34	9 ÷ 2	Q = ____ R = ____
13	3 ÷ 3	Q = ____ R = ____	35	8 ÷ 2	Q = ____ R = ____
14	4 ÷ 3	Q = ____ R = ____	36	37 ÷ 8	Q = ____ R = ____
15	8 ÷ 7	Q = ____ R = ____	37	50 ÷ 9	Q = ____ R = ____
16	9 ÷ 7	Q = ____ R = ____	38	17 ÷ 6	Q = ____ R = ____
17	4 ÷ 4	Q = ____ R = ____	39	48 ÷ 7	Q = ____ R = ____
18	5 ÷ 4	Q = ____ R = ____	40	51 ÷ 8	Q = ____ R = ____
19	6 ÷ 2	Q = ____ R = ____	41	68 ÷ 9	Q = ____ R = ____
20	7 ÷ 2	Q = ____ R = ____	42	53 ÷ 6	Q = ____ R = ____
21	8 ÷ 5	Q = ____ R = ____	43	61 ÷ 8	Q = ____ R = ____
22	7 ÷ 5	Q = ____ R = ____	44	70 ÷ 9	Q = ____ R = ____

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A

Correct _____

Circle the prime number.

1	4	3	23	40	41	42
2	6	3	24	42	43	44
3	8	3	25	49	47	45
4	5	10	26	53	50	55
5	5	12	27	54	56	59
6	5	14	28	99	97	95
7	8	7	29	90	92	91
8	9	11	30	95	96	97
9	11	15	31	88	89	90
10	15	17	32	60	61	62
11	19	16	33	63	65	67
12	14	11	34	71	70	69
13	13	12	35	73	75	77
14	18	17	36	49	79	99
15	19	20	37	63	93	83
16	21	23	38	22	2	12
17	25	19	39	17	27	57
18	29	27	40	5	15	25
19	31	30	41	39	49	59
20	33	37	42	1	21	31
21	9	2	43	51	57	2
22	51	2	44	84	95	43

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Lesson 27: Represent and solve division problems with up to a three-digit dividend numerically and with number disks requiring decomposing a remainder in the hundreds place.

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3.G.22

B Improvement _____   # Correct _____

Circle the prime number.

1	4	5	23	42	41	40
2	6	5	24	44	43	42
3	8	5	25	45	47	49
4	7	10	26	53	55	50
5	7	12	27	56	54	59
6	7	14	28	95	97	99
7	4	3	29	90	91	92
8	11	10	30	99	98	97
9	15	11	31	90	89	88
10	17	15	32	67	65	63
11	19	20	33	62	61	60
12	14	13	34	72	71	70
13	11	12	35	77	75	73
14	16	17	36	27	67	77
15	19	18	37	39	49	59
16	22	23	38	32	2	22
17	21	19	39	19	49	69
18	29	28	40	5	15	55
19	31	33	41	99	49	59
20	35	37	42	1	21	41
21	2	9	43	45	51	2
22	57	2	44	48	85	67

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A

Divide.

Correct _____

1	6 ÷ 2 =		23	300 ÷ 5 =	
2	60 ÷ 2 =		24	3000 ÷ 5 =	
3	600 ÷ 2 =		25	16 ÷ 4 =	
4	6000 ÷ 2 =		26	160 ÷ 4 =	
5	9 ÷ 3 =		27	18 ÷ 6 =	
6	90 ÷ 3 =		28	1800 ÷ 6 =	
7	900 ÷ 3 =		29	28 ÷ 7 =	
8	9000 ÷ 3 =		30	280 ÷ 7 =	
9	10 ÷ 5 =		31	48 ÷ 8 =	
10	15 ÷ 5 =		32	4800 ÷ 8 =	
11	150 ÷ 5 =		33	6300 ÷ 9 =	
12	1500 ÷ 5 =		34	200 ÷ 5 =	
13	2500 ÷ 5 =		35	560 ÷ 7 =	
14	3500 ÷ 5 =		36	7200 ÷ 9 =	
15	4500 ÷ 5 =		37	480 ÷ 6 =	
16	450 ÷ 5 =		38	5600 ÷ 8 =	
17	8 ÷ 4 =		39	400 ÷ 5 =	
18	12 ÷ 4 =		40	6300 ÷ 7 =	
19	120 ÷ 4 =		41	810 ÷ 9 =	
20	1200 ÷ 4 =		42	640 ÷ 8 =	
21	25 ÷ 5 =		43	5400 ÷ 6 =	
22	30 ÷ 5 =		44	4000 ÷ 5 =	

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Lesson 31: Interpret division word problems as either *number of groups unknown* or *group size unknown*.

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3.G.66

B

Add.

Improvement _____   # Correct _____

1	4 ÷ 2 =		23	200 ÷ 5 =	
2	40 ÷ 2 =		24	2000 ÷ 5 =	
3	400 ÷ 2 =		25	12 ÷ 4 =	
4	4000 ÷ 2 =		26	120 ÷ 4 =	
5	6 ÷ 3 =		27	21 ÷ 7 =	
6	60 ÷ 3 =		28	2100 ÷ 7 =	
7	600 ÷ 3 =		29	18 ÷ 6 =	
8	6000 ÷ 3 =		30	180 ÷ 6 =	
9	10 ÷ 5 =		31	54 ÷ 9 =	
10	15 ÷ 5 =		32	5400 ÷ 9 =	
11	150 ÷ 5 =		33	5600 ÷ 8 =	
12	250 ÷ 5 =		34	300 ÷ 5 =	
13	350 ÷ 5 =		35	490 ÷ 7 =	
14	3500 ÷ 5 =		36	6300 ÷ 9 =	
15	4500 ÷ 5 =		37	420 ÷ 6 =	
16	450 ÷ 5 =		38	4800 ÷ 8 =	
17	9 ÷ 3 =		39	4000 ÷ 5 =	
18	12 ÷ 3 =		40	560 ÷ 8 =	
19	120 ÷ 3 =		41	6400 ÷ 8 =	
20	1200 ÷ 3 =		42	720 ÷ 8 =	
21	25 ÷ 5 =		43	4800 ÷ 6 =	
22	20 ÷ 5 =		44	400 ÷ 5 =	

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engage^ny   **3.G.67**