Name _____   Date _____

1. Fill in the blanks using your knowledge of place value units and basic facts.

    a. 23 × 20

        Think: 23 ones × 2 tens = _____ tens

        23 × 20 = _____

    b. 230 × 20

        Think: 23 tens × 2 tens = _____

        230 × 20 = _____

    c. 41 × 4

        41 ones × 4 ones = 164 _____

        41 × 4 = _____

    d. 410 × 400

        41 tens × 4 hundreds = 164 _____

        410 × 400 = _____

    e. 3,310 × 300

        _____ tens × _____ hundreds = 993 _____

        3,310 × 300 = _____

    f. 500 × 600

        ____hundreds × _____hundreds = 30 _____

        500 × 600 = _____

2. Determine if these equations are true or false. Defend your answer using your knowledge of place value and the commutative, associative, and/or distributive properties.

    a. 6 tens = 2 tens × 3 tens

    b. 44 × 20 × 10 = 440 × 2

    c. 86 ones × 90 hundreds = 86 ones × 900 tens

    d. 64 × 8 × 100 = 640 × 8 × 10

COMMON CORE   **Lesson 1:**   Multiply multi-digit whole numbers and multiples of 10 using place
                                      value patterns and the distributive and associative properties.   engage^ny   2.A.9
                     Date: 7/4/13

e. $57 \times 2 \times 10 \times 10 \times 10 = 570 \times 2 \times 10$

3. Find the products. Show your thinking. The first row gives some ideas for showing your thinking.

   a. 7×9 7×90 70×90 70×900

        $= 63$ $= 63 \times 10$ $= (7 \times 10) \times (9 \times 10)$ $= (7 \times 9) \times (10 \times 100)$

                    $= 630$ $= (7 \times 9) \times 100$ $= 63,000$

                                       $= 6,300$

   b. 45×3 45×30 450×30 450×300

   c. 40×5 40×50 40×500 $400 \times 5,000$

   d. 718×2 $7,180 \times 20$ $7,180 \times 200$ $71,800 \times 2,000$

Lesson 1:   Multiply multi-digit whole numbers and multiples of 10 using place value patterns and the distributive and associative properties.
Date: 7/4/13

engage^ny   2.A.10

4. Ripley told his mom that multiplying whole numbers by multiples of 10 was easy because you just count zeros in the factors and put them in the product. He used these two examples to explain his strategy.

$$7{,}000 \times 600 = 4{,}200{,}000 \qquad 800 \times 700 = 560{,}000$$
(3 zeros) (2 zeros)   (5 zeros)   (2 zeros) (2 zeros) (4 zeros)

  a. Ripley's mom said his strategy won't always work. Why not? Give an example.

5. The Canadian side of Niagara Falls has a flow rate of 600,000 gallons per second. How many gallons of water flow over the falls in 1 minute?

6. Tickets to a baseball game are $20 for an adult and $15 for a student. A school buys tickets for 45 adults and 600 students. How much money will the school spend for the tickets?

COMMON CORE

Lesson 1:   Multiply multi-digit whole numbers and multiples of 10 using place value patterns and the distributive and associative properties.
Date: 7/4/13

engage^ny

2.A.11

Name _____   Date _____

1. Round the factors to estimate the products.
   a. 597 × 52 ≈ _____ × _____ = _____

   A reasonable estimate for 597 × 52 is _____.

   b. 1,103 × 59 ≈ _____ × _____ = _____

   A reasonable estimate for 1,103 × 59 is _____.

   c. 5,840 × 25 ≈ _____ × _____ = _____

   A reasonable estimate for 5,840 × 25 is _____.

2. Complete the table using your understanding of place value and knowledge of rounding to estimate the product.

Factors	Rounded Factors	Estimate
a. 2,809 × 42	3,000 × 40	120,000
b. 28,090 × 420		
c. 8,932 × 59		
d. 89 tens × 63 tens		
e. 398 hundreds × 52 tens		

Lesson 2:   Estimate multi-digit products by rounding factors to a basic fact and using place value patterns.

Date: 7/4/13

engage^ny   **2.A.23**

3. For which of the following expressions would 200,000 be a reasonable estimate? Explain how you know.

    $2,146 \times 12$ $21,467 \times 121$ $2,146 \times 121$ $21,477 \times 1,217$

4. Fill in the missing factors to find the given estimated product.

    a. $571 \times 43 \approx$ _____ × _____ = 24,000

    b. $726 \times 674 \approx$ _____ × _____ = 490,000

    c. $8,379 \times 541 \approx$ _____ × _____ = 4,000,000

5. There are 19,763 tickets available for a New York Knicks home game. If there are 41 home games in a season, about how many tickets are available for all the Knicks' home games?

6. Michael saves $423 dollars a month for college.

    a. About how much money will he have saved after 4 years?

    b. Will your estimate be lower or higher than the actual amount Michael will save? How do you know?

Name _____   Date _____

1. Draw a model. Then write the numerical expressions.

a. The sum of 8 and 7, doubled	b. 4 times the sum of 14 and 26
c. 3 times the difference between 37.5 and 24.5	d. The sum of 3 sixteens and 2 nines
e. The difference between 4 twenty-fives and 3 twenty-fives	f. Triple the sum of 33 and 27

COMMON CORE | **Lesson 3:** Write and interpret numerical expressions and compare expressions using a visual model.
Date: 7/4/13

engage^ny   2.B.10

2. Write the numerical expressions in words.

	Expression	Words	The Value of the Expression
a.	12 × (5 + 25)		
b.	(62 – 12) × 11		
c.	(45 + 55) × 23		
d.	(30 × 2) + (8 × 2)		

3. Compare the two expressions using >, <, or =. In the space beneath each pair of expressions, explain how you can compare without calculating. Draw a model if it helps you.

a.	24 × (20 + 5)	◯	(20 + 5) × 12
b.	18 × 27	◯	20 twenty-sevens minus 1 twenty-seven
c.	19 × 9	◯	3 nineteens, tripled

COMMON CORE

Lesson 3: Write and interpret numerical expressions and compare expressions using a visual model.

Date: 7/4/13

engage^ny

2.B.11

4. Mr. Huynh wrote *the sum of 7 fifteens and 38 fifteens* on the board.
    a. Draw a model and write the correct expression.

5. Two students wrote the following numerical expressions.
    Angeline: $(7 + 15) \times (38 + 15)$
    MeiLing: $15 \times (7 + 38)$

    Are the students' answers equivalent to your answer in Problem 4(a)? Explain your answer.

6. A box contains 24 oranges. Mr. Lee ordered 8 boxes for his store and 12 boxes for his restaurant.
    a. Write an expression to show how to find the total number of oranges ordered.

    b. Next week, Mr. Lee will both double the number of boxes he orders. Write a new expression to represent the number of oranges in next week's order.

    c. Evaluate your expression from Part (b) to find the total number of oranges ordered in both weeks.

COMMON CORE | Lesson 3: | Write and interpret numerical expressions and compare expressions using a visual model.
Date: | 7/4/13

engage^ny   2.B.12

Name _____ Date _____

1. Circle each expression that is not equivalent to the expression in **bold**.

    a. **16 × 29**

    29 sixteens   16 × (30 − 1)   (15 − 1) × 29   (10 × 29) − (6 × 29)

    b. **38 × 45**

    (38 + 40) × (38 + 5)   (38 × 40) + (38 × 5)   45 × (40 + 2)   45 thirty-eights

    c. **74 × 59**

    74 × (50 + 9)   74 × (60 − 1)   (74 × 5) + (74 × 9)   59 seventy-fours

2. Solve using mental math. Draw a tape diagram and fill in the blanks to show your thinking. The first one was done for you.

    a. 19 × 25 = _____ twenty-fives

25	25	25	...	25	25
1	2	3	...	19	20
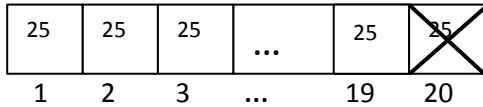
    Think: 20 twenty-fives − 1 twenty-five.

    = (_____ × 25) - (_____ × 25)

    = _____ - _____ = _____

    b. 24 × 11 = _____ twenty-fours

    Think: _____ twenty fours + _____ twenty four

    = (_____ × 24) + (_____ × 24)

    = _____ + _____ = _____

Lesson 4:   Convert numerical expressions into unit form as a mental strategy
            for multi-digit multiplication.
Date: 7/4/13

engage^{ny}   2.B.23

c.   79 × 14 = _____ fourteens

Think: ____ fourteens – 1 fourteen

= (_____ × 14) – (_____ × 14)

= _____ - _____ = _____

d.   21 × 75 = _____ seventy-fives

Think: ___ seventy-fives + ____seventy-five

= (_____ × 75) + (_____ × 75)

= _____ + _____ = _____

3.   Define the unit in word form and complete the sequence of problems as was done in Problems 3–4 in the lesson.

a.   19 × 15 = 19 _____

Think: 20 _____ – 1 _____

= (20 × _____) – (1 × _____)

= _____ – _____ = _____

b.   14 × 15 = 14 _____

Think: 10 _____ + 4 _____

= (10 × ____) + (4 × _____)

= _____ + _____ = _____

c.   25 × 12 = 12 _____

Think: 10 _____+ 2 _____

= (10 × _____) + (2 × _____)

= _____ + _____ = _____

d.   18 × 17 = 18 _____

Think: 20 _____ – 2 _____

= (20 × _____) – (2 × _____)

= _____ – _____ = _____

Lesson 4:   Convert numerical expressions into unit form as a mental strategy
for multi-digit multiplication.
Date: 7/4/13

engage^{ny}   2.B.24

4. How can 14 × 50 help you find 14 × 49?

5. Solve mentally.

    a. 101 × 15 = _____

    b. 18 × 99 = _____

6. Saleem says 45 × 32 is the same as (45 × 3) + (45 × 2). Explain Saleem's error using words, numbers, and pictures.

7. Juan delivers 174 newspapers every day. Edward delivers 126 more newspapers each day than Juan.
    a. Write an expression to show how many newspapers Edward will deliver in 29 days.

    b. Use mental math to solve. Show your thinking.

COMMON CORE | **Lesson 4:**   Convert numerical expressions into unit form as a mental strategy for multi-digit multiplication.   **engage**^ny   **2.B.25**

Date: 7/4/13

Name _____   Date _____

1. Draw an area model and then solve using the standard algorithm. Use arrows to match the partial products from the area model to the partial products of the algorithm.

a.   34 × 21

$$\begin{array}{r} 3\,4 \\ \times\ 2\,1 \\ \hline \end{array}$$

b.   434 × 21

$$\begin{array}{r} 4\,3\,4 \\ \times\ 2\,1 \\ \hline \end{array}$$

2. Solve using the standard algorithm.
   a.   431 × 12 = _____
   b.   123 × 23 = _____
   c.   312 × 32 = _____

Lesson 5:   Connect visual models and the distributive property to partial products of the standard algorithm without renaming.
Date: 7/4/13

engage^ny   2.B.38

3. Betty saves $161 a month. She saved $141 less each month than Jack. How much will Jack save in 2 years?

4. Farmer Brown feeds 12.1 kg of alfalfa to each of his 2 horses daily. How many kilograms of alfalfa will all his horses have eaten after 21 days? Draw an area model to solve.

Name _____   Date _____

1. Draw an area model, and then solve using the standard algorithm. Use arrows to match the partial products from your area model to the partial products in the algorithm.

    a. 48×35

$$
\begin{array}{r}
4\,8 \\
\times\ 3\,5 \\
\hline
\end{array}
$$

    b. 648×35

$$
\begin{array}{r}
6\,4\,8 \\
\times\ 3\,5 \\
\hline
\end{array}
$$

2. Solve using the standard algorithm.
    a. 758×92 c. 476×65

    b. 958×94 d. 547×64

3. Carpet costs $16 a square foot. A rectangular floor is 14 feet long by 16 feet wide. How much would it cost to carpet the floor?

4. General admission to The American Museum of Natural History is $19.

    a. If a group of 125 students visits the museum, how much will the group's tickets cost?

    b. If the group also purchases IMAX movie tickets for an additional $4 per student, what is the new total cost of all the tickets? Write an expression that shows how you calculated the new price.

Name _____   Date _____

1. Draw an area model, and then solve using the standard algorithm. Use arrows to match the partial products from the area model to the partial products in the algorithm.

    a.   481 × 352

$$4\,8\,1$$
$$\underline{\times\ 3\,5\,2}$$

    b.   481 × 302

$$4\,8\,1$$
$$\underline{\times\ 3\,0\,2}$$

    c.   Both 1(a) and 1(b) have three-digit multipliers. Why are there three partial products in 1(a) and only two partial products in 1(b)?

COMMON CORE	**Lesson 7:**	Connect area diagrams and the distributive property to partial products of the standard algorithm with renaming.
	Date:	7/4/13

engage^{ny}   **2.B.63**

2. Solve by drawing the area model and using the standard algorithm.

    a. 8,401 × 305

$$
\begin{array}{r}
8{,}4\,0\,1 \\
\times\ \ 3\,0\,5 \\
\hline
\end{array}
$$

    b. 7,481 × 350

$$
\begin{array}{r}
7{,}4\,8\,1 \\
\times\ \ 3\,5\,0 \\
\hline
\end{array}
$$

3. Solve using the standard algorithm.
    a. 346 × 27   c. 346 × 207

    b. 1,346 × 297   d. 1,346 × 207

COMMON CORE   Lesson 7:   Connect area diagrams and the distributive property to partial
                               products of the standard algorithm with renaming.
                   Date: 7/4/13

engage^ny   2.B.64

4. A school district purchased 615 new laptops for their mobile labs. Each computer cost $409. What's the total cost for all of the laptops?

5. A publisher prints 1,512 copies of a book in each print run. If they print 305 runs, how many books will be printed?

6. As of the 2010 census, there were 3,669 people living in Marlboro, New York. Brooklyn, New York, has 681 times as many people. How many more people live in Brooklyn than in Marlboro?

Name _____   Date _____

1. Estimate the product first. Solve by using the standard algorithm. Use your estimate to check the reasonableness of the product.

a. 213 × 328 $\approx 200 \times 300$ $= 60{,}000$ $\begin{array}{r} 2\,1\,3 \\ \times\ \ 3\,2\,8 \\ \hline \end{array}$	b. 662 × 372	c. 739 × 442
d. 807 × 491	e. 3,502 × 656	f. 4,390 × 741
g. 530 × 2,075	h. 4,004 × 603	i. 987 × 3,105

Lesson 8:   Fluently multiply multi-digit whole numbers using the standard algorithm and using estimation to check for reasonableness of the products.

Date: 7/4/13

engage^{ny}   **2.B.75**

2. Each container holds 1 L 275 mL of water. How much water is in 609 identical containers? Find the difference between your estimated product and precise product.

3. A club had some money to purchase new chairs. After buying 355 chairs at $199 each, there was $1,068 remaining. How much money did the club have at first?

4. So far, Carmella has collected 14 boxes of baseball cards. Each box has 315 cards in it. Carmella estimates that she has about 3,000 cards, so she buys 6 albums that hold 500 cards each.
   a. Will the albums have enough space for all of her cards? Why or why not?

   b. How many cards does Carmella have?

   c. How many albums will she need for all of her baseball cards?

Lesson 8:   Fluently multiply multi-digit whole numbers using the standard algorithm and using estimation to check for reasonableness of the products.

Date: 7/4/13

engage^ny   2.B.76

Name _____   Date _____

Solve.

1. An office space in New York City measures 48 feet by 56 feet. If it sells for $565 per square foot, what is the total cost of the office space?

2. Gemma and Leah are both jewelry makers. Gemma made 106 beaded necklaces. Leah made 39 more necklaces than Gemma.
   a. Each necklace they make has exactly 104 beads on it. How many beads did both girls use altogether while making their necklaces?

   b. At a recent craft fair, Gemma sold each of her necklaces for $14. Leah sold each of her necklaces for 10 dollars more. Who made more money at the craft fair? How much more?

3. Peng bought 26 treadmills for her new fitness center at $1,334 each. Then she bought 19 stationary bikes for $749 each. How much did she spend on her new equipment? Write an expression, and then solve.

COMMON CORE   Lesson 9:   Fluently multiply multi-digit whole numbers using the standard
                Date: algorithm to solve multi-step word problems.
                             7/4/13   engage^ny   2.B.85

4. A Hudson Valley farmer has 26 employees. He pays each employee $410 per week. After paying his workers for one week, the farmer has $162 left in his bank account. How much money did he have at to begin with?

5. Frances is sewing a border around 2 rectangular tablecloths that each measure 9 feet long by 6 feet wide. If it takes her 3 minutes to sew on 1 inch of border, how many minutes will it take her to complete her sewing project? Write an expression, and then solve.

6. Each grade level at Hooperville Schools has 298 students.
   a. If there are 13 grade levels, how many students attend Hooperville Schools?

   b. A nearby district, Willington, is much larger. They have 12 times as many students. How many students attend schools in Willington?

COMMON CORE | Lesson 9: | Fluently multiply multi-digit whole numbers using the standard algorithm to solve multi-step word problems. | engage^ny | 2.B.86

Date: | 7/4/13

Name _____   Date _____

1. Estimate the product. Solve using an area model and the standard algorithm. Remember to express your products in standard form.

    a.   22 × 2.4 ≈ _____ × _____ = _____

$$2\ 4\ \text{(tenths)}$$
$$\times\ 2\ 2$$

    b.   3.1 × 33 ≈ _____ × _____ = _____

$$3\ 1\ \text{(tenths)}$$
$$\times\ 3\ 3$$

2. Estimate, and then use the standard algorithm to solve. Express your products in standard form.

    a.   3.2 × 47 ≈ _____ × _____ = _____   b.   3.2 × 94 ≈ _____ × _____ = _____

$$3\ 2\ \text{(tenths)}$$
$$\times\ 4\ 7$$

$$3\ 2\ \text{(tenths)}$$
$$\times\ 9\ 4$$

Lesson 10: | Multiply decimal fractions with tenths by multi-digit whole numbers using place value understanding to record partial products.

Date: | 7/4/13

engage^ny   2.C.8

c. 6.3×44 d. 14.6×17

e. 8.2×34 f. 160.4×17

3.   Michelle multiplied 3.4×52. She incorrectly wrote 1,768 as her product. Use words, numbers, and pictures to explain Michelle's mistake.

4.   A wire is bent to form a square with a perimeter of 16.4 cm. How much wire would be needed to form 25 such squares? Express your answer in meters.

Lesson 10:   Multiply decimal fractions with tenths by multi-digit whole numbers using place value understanding to record partial products.
Date: 7/4/13

engage^{ny}   2.C.9

Name _____   Date _____

1. Estimate the product. Solve using the standard algorithm. Use the thought bubbles to show your thinking. (Draw an area model on a separate sheet if it helps you.)

   a. $1.38 \times 32 \approx$ _____ $\times$ _____ = _____

   b. $3.55 \times 89 \approx$ _____$\times$_____ = _____

   Think: 138
   (1.38×100)

   ⊗1 . 3 8
   $\times$ 3 2

   3 . 5 5
   $\times$ 8 9

   Think! 4416 is 100 times too large! What is the real product?

   1.38×32 = _____

   3.55×89 = _____

2. Solve using the standard algorithm.

   a. 5.04×8

   b. 147.83×67

   c. 83.41×504

   d. 0.56×432

Lesson 11:   Multiply decimal fractions by multi-digit whole numbers through conversion to a whole number problem and reasoning about the placement of the decimal.
Date: 7/4/13

engage^{ny}

2.C.20

3. Use the whole number product and place value reasoning to place the decimal point in the second product. Explain how you know.

    a.   If 98 × 768 = 75,264   then   98 × 7.68 = _____

    b.   If 73 × 1,563 = 114,099   then   73 × 15.63 = _____

    c.   If 46 × 1,239 = 56,994   then   46 × 123.9 = _____

4. Jenny buys 22 pens that cost $1.15 each and 15 markers that cost $2.05 each. How much will Jenny spend?

5. A living room measures 24 feet by 15 feet. An adjacent square dining room measures 13 feet on each side. If carpet costs $6.98 per square foot, what is the total cost of putting carpet in both rooms?

COMMON CORE	**Lesson 11:**	Multiply decimal fractions by multi-digit whole numbers through conversion to a whole number problem and reasoning about the placement of the decimal.	**engage**ny
	Date:	7/4/13	

2.C.21

Name _____   Date _____

1. Estimate, and then solve using the standard algorithm. You may draw an area model if it helps you.

   a. $1.21 \times 14 \approx$ _____ $\times$ _____ = _____

   b. $2.45 \times 305 \approx$ _____ $\times$ _____ = _____

2. Estimate, and then solve using the standard algorithm. Use a separate sheet to draw the area model if it helps you.

   a. 1.23×12 b. 1.3×26

   c. 0.23×14 d. 0.45×26

Lesson 12: Reason about the product of a whole number and a decimal with hundredths using place value understanding and estimation.
Date: 7/4/13

engage^ny   2.C.29

e. 7.06×28

f. 6.32×223

g. 7.06×208

h. 151.46×555

3. Denise walks on the beach every afternoon. In the month of July she walked 3.45 miles each day. How far did Denise walk during the month of July?

4. A gallon of gas costs $4.34. Greg puts 12 gallons of gas in his car. He has a 50-dollar bill. Tell how much money Greg will have left, or how much more money he will need. Show all your calculations.

5. Seth drinks a glass of orange juice every day that contains 0.6 grams of Vitamin C. He eats a serving of strawberries for snack after school every day that contains 0.35 grams of Vitamin C. How many grams of Vitamin C does Seth consume in 3 weeks?

![Common Core logo] **COMMON CORE** | **Lesson 12:** Reason about the product of a whole number and a decimal with hundredths using place value understanding and estimation. | **engage**ny | **2.C.30**

Date: 7/4/13

Name _____   Date _____

1. Complete the chart below with the measurement equivalents.

Feet	Inches
1	
2	
3	
4	
10	
12	
40	
45	
120	

Centimeters	Meters
	1
	2
	3
	4
	10
	12
	40
	45
	120

2. Explain how to convert feet to inches. Draw a number line or tape diagram to support your explanation.

3. Explain how to convert meters to centimeters. Draw a number line or tape diagram to support your explanation.

Lesson 13:   Use whole number multiplication to express equivalent measurements.
Date: 7/4/13

engage^ny   2.D.9

4. Convert. Use your Reference Sheet to remind you of the conversion factors. Show your work.

   a. 27 ft = _____ in   d. 7 kg = _____ g   g. 3 km 85 m = _____ m

   b. _____ oz = 54 lb   e. 4 mi = _____ yd = _____ ft   h. 2 qt = _____ pt = _____ fl oz

   c. _____pt = 21 qt   f. _____ L = 9 kL   i. _____ oz = 24 lb 15 oz

5. Emily's pet snake is 5 feet long. Kristen's snake is 50 inches long. Kristen says her snake is much longer because 50 is so much bigger than 5. Is Kristen right? Why or why not?

6. Ben helps his dad make chicken soup. Their recipe makes 15 cups of soup. If they each eat 2 cups and freeze the rest, will the leftovers fit in a 64-ounce container?

COMMON CORE	**Lesson 13:**	Use whole number multiplication to express equivalent measurements.
	Date:	7/4/13

engage^ny   2.D.10

Name _____   Date _____

1. Convert. Use your Reference Sheet to help you remember the conversion factors.

   a.   4.5 km = _____ m   d.   8.25 g = _____ mg   g.   0.5 mi = _____ ft

   b.   _____ fl oz = 2.75 c   e.   3.25 gal = _____ qt   h.   7.9 m = _____ cm

   c.   _____ mL = 4.85 L   f.   _____ pt = 16.5 qt   i.   _____ oz = 4.5 lb

2. Cassidy figured out that she makes $0.75 every minute at her job. She works 7 hours 15 minutes every day.

   a.   How many minutes does she work in 4 days?

   b.   How much will Cassidy earn in 4 days?

Lesson 14:   Use decimal multiplication to express equivalent measurements.
Date: 7/4/13

engage^ny   2.D.21

3. Emma can't believe how huge the Statue of Liberty is. She finds more information about Lady Liberty.
    Help Emma fill in the rest of the chart and then answer the questions.

The Statue of Liberty's	CUSTOMARY UNITS		METRIC UNITS	
	Feet	**Inches**	**Meters**	**Centimeters**
Nose	4 ft 6 in		1.37 m	
Index Finger	8 ft		2.44 m	
Head	17ft 3 in		5.26 m	
Eye	2 ft 6 in		0.76 m	

Source: http://www.nps.gov/stli/historyculture/statue-statistics.htm

a. Emma is 52 inches tall. Which of Lady Liberty's body parts above is the closest to Emma's height?
    What is the difference between these two measurements in inches?

b. Emma's eye is 4 cm wide. How many of Emma's eyes lined up end to end would it take to stretch all
    the way across one of Lady Liberty's eyes?

c. The length of Emma's neighborhood block is 0.19 km. About how many of the statue's heads would it
    take to cover the length of her block?

d. Measured in meters, Lady Liberty's index finger is 4 times as long as Emma's leg. What is the length
    of Emma's leg in meters?

COMMON CORE

Lesson 14:   Use decimal multiplication to express equivalent measurements.
Date: 7/4/13

engage^ny   2.D.22

Name _____   Date _____

Solve.

1. Liza's cat had six kittens! When Liza and her brother weigh all the kittens together, they weigh 4 pounds 2 ounces. Since all the kittens are about the same size, how many ounces does each kitten weigh?

2. Holly is buying orange juice for the class party. There are 24 people coming, and she figures each person will drink 1.75 cups.
   a. How many fluid ounces of juice will she need?

   b. If she buys five 59-ounce containers, will she have enough juice?

3. Josie is 1.4 m tall. Her sister is 54 cm shorter.
   a. Find Josie's sister's height in meters.

   b. How tall are Josie and her sister combined, in meters?

Common Core   Lesson 15: Solve two-step word problems involving measurement and multi-digit multiplication.   engage^ny   2.D.32

Date: 7/4/13

4. A crane operator unloaded the following cargo:
   - 5 pallets of lumber. Each pallet weighs 7.3 tons.
   - 9 pallets of concrete. Each pallet weighs 4.8 tons.

   a. How many pounds of cargo were unloaded?

   b. Which load of cargo was heavier, the lumber or the concrete? How many pounds heavier?

5. A punch recipe calls for 2 quarts of ginger ale, 3 pints of orange juice, 2 pints of pineapple juice, 1 cup of lemon juice, and 3 ounces of lime juice. Edna plans to make a double-recipe. How many fluid ounces will there be in a double-recipe of punch?

6. Use the table below to answer the questions that follow.

TOWN OF WAPPINGERS FALLS Distances from Akun's House	
Location	**Distance**
Cibo Deli	2.5 miles
W.F. Library	15,840 feet
Elementary School	5,280 yards
Youth Ball Field	1 mile 880 yards

a. If Akun travels from his house to the Youth Ball Field and back, how many miles did he travel?

b. Which two locations are equidistant from Akun's house?

c. Three days a week, Akun walks to school. After school, the bus drops him off at the library to do his homework. He walks home afterwards. How far, in feet, does Akun walk on those three days?

COMMON CORE

Lesson 15: Solve two-step word problems involving measurement and multi-digit multiplication.
Date: 7/4/13

engage^ny 2.D.34

Name _____   Date _____

1. Divide. Draw number disks to show your thinking for (a) and (c). You may draw disks on your personal white board to solve the others if necessary.

a. $500 \div 10$	b. $360 \div 10$
c. $12,000 \div 100$	d. $450,000 \div 100$
e. $700,000 \div 1,000$	f. $530,000 \div 100$

2. Divide. The first one is done for you.

a. $12,000 \div 30$ $= 12,000 \div 10 \div 3$ $= 1,200 \div 3$ $= 400$	b. $12,000 \div 300$	c. $12,000 \div 3,000$
d. $560,000 \div 70$	e. $560,000 \div 700$	f. $560,000 \div 7,000$

g. 28,000 ÷ 40	h. 450,000 ÷ 500	i. 810,000 ÷ 9,000

3. The floor of a rectangular banquet hall has an area of 3,600 m^2. The length is 90 m.
   a.   What is the width of the banquet hall?

   b.   A square banquet hall has the same area. What is its length?

   c.   A third rectangular banquet hall has a perimeter of 3,600 m. What is the width if the length is 5 times the width?

COMMON CORE

Lesson 16:   Use *divide by 10* patterns for multi-digit whole number division.
Date: 7/4/13

engage^{ny} 2.E.11

4. Two fifth graders solved 400,000 divided by 800. Carter said the answer is 500, while Kim said the answer is 5,000.

   a. Who has the correct answer? Explain your thinking.

   b. What if the problem is 4,000,000 divided by 8,000? What is the quotient?

COMMON CORE

Lesson 16:   Use *divide by 10* patterns for multi-digit whole number division.
Date: 7/4/13

engage^ny   2.E.12

Name _____   Date _____

1. Estimate the quotient for the following problems. Round the divisor first.

a. $609 \div 21$ $\approx 600 \div 20$ $= 30$	b. $913 \div 29$ $\approx$ _____ $\div$ _____ $=$ _____	c. $826 \div 37$ $\approx$ _____ $\div$ _____ $=$ _____
d. $141 \div 73$ $\approx$ _____ $\div$ _____ $=$ _____	e. $241 \div 58$ $\approx$ _____ $\div$ _____ $=$ _____	f. $482 \div 62$ $\approx$ _____ $\div$ _____ $=$ _____
g. $656 \div 81$ $\approx$ _____ $\div$ _____ $=$ _____	h. $799 \div 99$ $\approx$ _____ $\div$ _____ $=$ _____	i. $635 \div 95$ $\approx$ _____ $\div$ _____ $=$ _____
j. $311 \div 76$ $\approx$ _____ $\div$ _____ $=$ _____	k. $648 \div 83$ $\approx$ _____ $\div$ _____ $=$ _____	l. $143 \div 35$ $\approx$ _____ $\div$ _____ $=$ _____

m. $525 \div 25$	n. $552 \div 85$	o. $667 \div 11$
≈ _____ ÷ _____ = _____	≈ _____ ÷ _____ = _____	≈ _____ ÷ _____ = _____

2. A video game store has a budget of $825 and would like to purchase new video games. If each video game costs $41, estimate the total number of video games the store can purchase with their budget. Explain your thinking.

3. Jackson estimated $637 \div 78$ as $640 \div 80$. He reasoned that 64 tens divided by 8 tens should be 8 tens. Is Jackson's reasoning correct? If so, explain why. If not, explain a correct solution.

Name _____   Date _____

1. Estimate the quotient for the following problems. The first one is done for you.

a. 5,738 ÷ 21 ≈ 6,000 ÷ 20 = 300	b. 2,659 ÷ 28 ≈ _____ ÷ _____ = _____	c. 9,155 ÷ 34 ≈ _____ ÷ _____ = _____
d. 1,463 ÷ 53 ≈ _____ ÷ _____ = _____	e. 2,525 ÷ 64 ≈ _____ ÷ _____ = _____	f. 2,271 ÷ 72 ≈ _____ ÷ _____ = _____
g. 4,901 ÷ 75 ≈ _____ ÷ _____ = _____	h. 8,515 ÷ 81 ≈ _____ ÷ _____ = _____	i. 8,515 ÷ 89 ≈ _____ ÷ _____ = _____
j. 3,925 ÷ 68 ≈ _____ ÷ _____ = _____	k. 5,124 ÷ 81 ≈ _____ ÷ _____ = _____	l. 4,945 ÷ 93 ≈ _____ ÷ _____ = _____
m. 5,397 ÷ 94 ≈ _____ ÷ _____ = _____	n. 6,918 ÷ 86 ≈ _____ ÷ _____ = _____	o. 2,806 ÷ 15 ≈ _____ ÷ _____ = _____

2. A swimming pool requires 672 ft^2 of floor space. The length of the swimming pool is 32 ft. Estimate the width of the swimming pool.

3. Janice bought 28 apps for her phone that, altogether, used 1,348 MB of space.
   a. If each app used the same amount of space, about how many MB of memory did each app use? Show how you estimated.

   b. If half of the apps were free and the other half were $1.99 each, about how much did she spend?

4. A quart of paint covers about 85 square feet. About how many quarts would you need to cover a fence with an area of 3,817 square feet?

5. Peggy has saved $9,215. If she is paid $45 an hour, about how many hours did she work?

Name _____   Date _____

1. Divide, then check. The first one is done for you.

    a. 41 ÷ 30   Check:

    ```
              1   R 11
        3  0 | 4  1
               3  0
               1  1
    ```
    $30 \times 1 = 30$

    $30 + 11 = 41$

    b. 80 ÷ 30

    c. 71 ÷ 50

    d. 270 ÷ 30

    e. 643 ÷ 80

    f. 215 ÷ 90

engage^ny   2.F.8

2. Terry says the solution to 299 ÷ 40 is 6 R59. His work is shown below. Explain Terry's error in thinking, and then find the correct quotient using the space on the right.

```
                6
    4  0 | 2  9  9
           2  4  0
              5  9
```

```
    4  0 | 2  9   9
```

3. A number divided by 80 has a quotient of 7 with 4 as a remainder. Find the number.

4. While swimming a 2 km race, Adam changes from breaststroke to butterfly every 200 m. How many times did he switch strokes during the first half of the race?

Name _____   Date _____

1. Divide, then check with multiplication. The first one is done for you.

   a. 65 ÷ 17

                             d. 84 ÷ 32

```
            3   R 14      Check:
  1  7 | 6  5               17 × 3 = 51
     -  5  1                 51 + 14 = 65
        1  4
```

   b. 49 ÷ 21   e. 77 ÷ 25

   c. 78 ÷ 39   f. 68 ÷ 17

COMMON CORE   Lesson 20:   Divide two- and three-digit dividends by two-digit divisors with single-digit quotients and make connections to a written method.   engage^ny   2.F.20

Date: 7/4/13

2. When dividing 82 by 43, Linda estimated the quotient to be 2. Examine Linda's work and explain what she needs to do next. On the right, show how you would solve the problem.

| Linda's estimation: | Linda's work: | Your work: |

$$
\begin{array}{r} 2 \\ 4\ 0\ \overline{)\ 8\ 0\ } \end{array}
$$

$$
\begin{array}{r} 2 \\ 4\ 3\ \overline{)\ 8\ 2\ } \\ -\ 8\ 6 \\ \hline ?\ ? \end{array}
$$

$$
4\ 3\ \overline{)\ 8\ 2\ }
$$

3. A number divided by 43 has a quotient of 3 with 28 as a remainder. Find the number. Show your work.

4. Write another division problem that has a quotient of 3 and a remainder of 28.

5. Mrs. Silverstein sold 91 cupcakes at a food fair. The cupcakes were sold in boxes of "a baker's dozen," which is 13. She sold all the cupcakes at $15 per box. How much money did she receive?

COMMON CORE

Lesson 20: Divide two- and three-digit dividends by two-digit divisors with single-digit quotients and make connections to a written method.

Date: 7/4/13

engage^ny   2.F.21

Name _____ Date _____

1. Divide, then check using multiplication. The first one is done for you.
    a. 258 ÷ 47

$$
\begin{array}{r}
5 \quad \text{R } 23 \\
47\overline{\smash{)}\,2\;5\;8} \\
-\;2\;3\;5 \\
\hline
\;2\;3
\end{array}
$$

    Check:

    $47 \times 5 = 235$

    $235 + 23 = 258$

    b. 148 ÷ 67

    c. 591 ÷ 73

    d. 759 ÷ 94

    e. 653 ÷ 74

    f. 257 ÷ 36

COMMON CORE

Lesson 21: Divide two- and three-digit dividends by two-digit divisors with single-digit quotients and make connections to a written method.

Date: 7/4/13

engage^{ny}

2.F.32

2. Generate and solve at least one more division problem with the same quotient and remainder as the one below. Explain your thought process.

```
            8
  5   8 | 4  7  5
      -  4  6  4
            1  1
```

3. Assume that Mrs. Giang's car travels 14 miles on each gallon of   gas. If she travels to visit her niece who lives 133 miles away, how many   gallons of gas will Mrs. Giang need to make the round trip?

4. Louis brings 79 pencils to school. After he gives each of his 15 classmates an equal number of pencils, he will give any leftover pencils to his teacher.

   a. How many pencils will Louis' teacher receive?

   b. If Louis decides instead to take an equal share of the pencils along with his classmates, will his teacher receive more pencils or fewer pencils? Show your thinking.

COMMON CORE	**Lesson 21:**	Divide two- and three-digit dividends by two-digit divisors with single-digit quotients and make connections to a written method.
	Date:	7/4/13

engage^{ny}   2.F.33

Name _____   Date _____

1. Divide, then check using multiplication. The first one is done for you.

    a. 580 ÷ 17

Check:

```
            3   4   R2
    1   7 | 5   8   0
        -   5   1
            7   0
            6   8
                2
```

34 × 17 = 578

578 + 2 = 580

    b. 730 ÷ 32

    c. 940 ÷ 28

    d. 553 ÷ 23

    e. 704 ÷ 46

COMMON CORE   **Lesson 22:**   Divide three- and four-digit dividends by two-digit divisors resulting in two- and three-digit quotients reasoning about the decomposition of successive remainder in each place value.   engage^ny   **2.F.43**

Date: 7/4/13

f. $614 \div 15$

2. Halle solved $664 \div 48$ below. She got a quotient of 13 with a remainder of 40. How could she use her work below to solve $659 \div 48$ without redoing the work? Explain your thinking.

```
            1   3
    4   8 | 6   6   4
      -   4   8
            1   8   4
      -   1   4   4
                4   0
```

3. 27 students are learning to make balloon animals. There are 172 balloons to be shared equally among the students.
    a. How many balloons are left over after sharing them equally?

    b. If each student needs 7 balloons, how many more balloons are needed? Explain how you know.

COMMON CORE

Lesson 22:   Divide three- and four-digit dividends by two-digit divisors resulting in two- and three-digit quotients reasoning about the decomposition of successive remainder in each place value.

Date: 7/4/13

engage^ny   **2.F.44**

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Name _____   Date _____

1. Divide, then check using multiplication.

   a. $4,859 \div 23$

   b. $4,368 \div 52$

   c. $7,242 \div 34$

   d. $3,164 \div 45$

   e. $9,152 \div 29$

   f. $4,424 \div 63$

Lesson 23: Divide three- and four-digit dividends by two-digit divisors resulting in two- and three-digit quotients reasoning about the decomposition of successive remainders in each place value.

Date: 7/4/13

engage^ny   2.F.55

2. Mr. Riley baked 1,692 chocolate cookies. He sold them in boxes of 36 cookies each. How much money did he collect if he sold them all at $8 per box?

3. 1,092 flowers are arranged into 26 vases, with the same number of flowers in each vase. How many flowers would be needed to fill 130 such vases?

4. The elephant's water tank holds 2,560 gallons of water. After two weeks, the zookeeper measures and finds that the tank only has 1,934 gallons of water left. If the elephant drinks the same amount of water each day, how many days will a full tank of water last?

COMMON CORE

Lesson 23:   Divide three- and four-digit dividends by two-digit divisors resulting
              in two- and three-digit quotients reasoning about the
              decomposition of successive remainders in each place value.
Date: 7/4/13

engage^ny   2.F.56

Name _____   Date _____

1. Divide. Show the division in the right hand column in two steps. The first two have been done for you.

   a. 1.2 ÷ 6 = 0.2

   b. 1.2 ÷ 60 = (1.2 ÷ 6) ÷ 10 = 0.2 ÷ 10 = 0.02

   c. 2.4 ÷ 4 = _____

   d. 2.4 ÷ 40 = _____

   e. 14.7 ÷ 7 = _____

   f. 14.7 ÷ 70 = _____

   g. 3.4 ÷ 2 = _____

   h. 0.34 ÷ 20 = _____

   i. 0.45 ÷ 9 = _____

   j. 0.45 ÷ 90 = _____

   k. 3.45 ÷ 3 = _____

   l. 34.5 ÷ 300 = _____

Lesson 24:   Divide decimal dividends by multiples of 10, reasoning about the placement of the decimal point and making connections to a written method.
Date: 7/4/13

COMMON CORE

engage^ny

2.G.9

2. Use place value reasoning and the first quotient to compute the second quotient. Explain your thought process.

a. 46.5 ÷ 5 = 9.3

   46.5 ÷ 50 = _____

b. 0.51 ÷ 3 = 0.17

   0.51 ÷ 30 = _____

c. 29.4 ÷ 70 = 0.42

   2.94 ÷ 7 = _____

d. 13.6 ÷ 40 = 0.34

   13.6 ÷ 4 = _____

3. 20 polar bears live at the zoo. In four weeks, they eat 9,732.8 pounds of food altogether. Assuming each bear is fed the same amount of food, how much food is used to feed one bear for a week? Round your answer to the nearest pound.

4. The total weight of 30 bags of flour and 4 bags of sugar is 42.6 kg. If each bag of sugar weighs 0.75 kg, what is the weight of each bag of flour?

Lesson 24:   Divide decimal dividends by multiples of 10, reasoning about the placement of the decimal point and making connections to a written method.

Date: 7/4/13

engage^{ny}   2.G.10

Name _____   Date _____

1. Estimate the quotients.

    a. $3.24 \div 82 \approx$

    b. $361.2 \div 61 \approx$

    c. $7.15 \div 31 \approx$

    d. $85.2 \div 31 \approx$

    e. $27.97 \div 28 \approx$

2. Estimate the quotient in (a). Use your estimated quotient to estimate (b) and (c).

    a. $7.16 \div 36 \approx$

    b. $716 \div 36 \approx$

    c. $71.6 \div 36 \approx$

COMMON CORE   **Lesson 25:**   Use basic facts to approximate decimal quotients with two-digit   **2.G.20**
divisors reasoning about the placement of the decimal point.
Date: 7/4/13

engage^{ny}

3. Edward bikes the same route to and from school each day. After 28 school days, he bikes a total distance of 389.2 miles.

    a. Estimate how many miles he bikes in one day.

    b. If Edward continues his routine of biking to school, about how days altogether will it take him to reach a total distance of 500 miles?

4. Xavier goes to the store with $40. He spends $38.60 on 13 bags of popcorn.

    a. About how much does a bag of popcorn cost?

    b. Does he have enough money for another bag? Use your estimate to explain your answer.

Lesson 25: Use basic facts to approximate decimal quotients with two-digit divisors reasoning about the placement of the decimal point.

Date: 7/4/13

2.G.21

Name _____   Date _____

1. 156 ÷ 24 and 102 ÷ 15 both have a quotient of 6 and a remainder of 12.

    a. Are the division expressions equivalent to each other? Use your knowledge of decimal division to justify your answer.

    b. Construct your own division problem with a two-digit divisor that has a quotient of 6 and a remainder of 12 but is not equivalent to the problems in 1(a).

2. Divide, then check your work with multiplication.

    a. 36.14 ÷ 13   e. 249.6 ÷ 52

    b. 62.79 ÷ 23   f. 24.96 ÷ 52

    c. 12.21 ÷ 11   g. 300.9 ÷ 59

    d. 6.89 ÷ 13   h. 30.09÷ 59

COMMON CORE

Lesson 26: Divide decimal dividends by two-digit divisors, estimating quotients, reasoning about the placement of the decimal point, and making connections to a written method.

Date: 7/4/13

engage^ny   2.G.34

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3. The weight of 72 identical marbles is 183.6 grams. What is the weight of each marble? Explain how you know the decimal point of your quotient is placed reasonably.

4. Cameron wants to measure the length of his classroom using his foot as a length unit. His teacher tells him the length of the classroom is 23 meters. Cameron steps across the classroom heel to toe and finds that it takes him 92 steps. How long is Cameron's foot in meters?

5. A blue rope is three times as long as a red rope. A green rope is 5 times as long as the blue rope. If the total length of the three ropes is 508.25 meters, what is the length of the blue rope?

Name _____   Date _____

1. Divide. Check your work with multiplication.

    a. $5.6 \div 16$

    b. $21 \div 14$

    c. $24 \div 48$

    d. $36 \div 24$

    e. $81 \div 54$

    f. $15.6 \div 15$

    g. $5.4 \div 15$

    h. $16.12 \div 52$

    i. $2.8 \div 16$

2. 30.48 kg of beef was placed into 24 packages of equal weight. What is the weight of one package of beef?

Lesson 27: Divide decimal dividends by two-digit divisors, estimating quotients, reasoning about the placement of the decimal point, and making connections to a written method.
Date: 7/4/13

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engage^ny 2.G.45

3. What is the length of a rectangle whose width is 17 inches and whose area is 582.25 in^2?

4. A soccer coach spent $162 dollars on 24 pairs of socks for his players. How much did five pairs of socks cost?

5. A craft club makes 95 identical paperweights to sell. They collect $230.85 from selling all the paperweights. If the profit the club collects on each paperweight is two times as much as the cost to make each one, what does it cost the club to make each paperweight?

Lesson 27:   Divide decimal dividends by two-digit divisors, estimating quotients, reasoning about the placement of the decimal point, and making connections to a written method.

Date: 7/4/13

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engage^ny   2.G.46

2.H.10

Name _____   Date _____

1. Ava is saving for a new computer that costs $1,218. She has already saved half of the money. Ava earns $14.00 per hour. How many hours must Ava work in order to save the rest of the money?

2. Michael has a collection of 1,404 sports cards. He hopes to sell the collection in packs of 36 cards and make $633.75 when all the packs are sold. If each pack is priced the same, how much should Michael charge per pack?

3. Jim Nasium is building a tree house for his two daughters. He cuts 12 pieces of wood from a board that is 128 inches long. He cuts 5 pieces that measure 15.75 inches each, and 7 pieces evenly cut from what is left. Jim calculates that due to the width of his cutting blade, he will lose a total of 2 inches of wood after making all of the cuts. What is the length of each of the seven pieces?

4. A load of bricks is twice as heavy as a load of sticks. The total weight of 4 loads of bricks and 4 loads of sticks is 771 kilograms. What is the total weight of 1 load of bricks and 3 loads of sticks?

COMMON CORE | **Lesson 28:** Solve division word problems involving multi-digit division with group size unknown and the number of groups unknown.
Date: 7/4/13

engage^{ny} 2.H.11

Name _____   Date _____

1. Lamar has 1,354.5 kilograms of potatoes to deliver to 18 stores. 12 of the stores are in the Bronx. How many kilograms of potatoes will be delivered to stores in the Bronx?

2. Valerie uses 12 oz of detergent each week for her laundry. If there are 75 oz of detergent in the bottle, in how many weeks will she need to buy a new bottle of detergent? Explain how you know.

Lesson 29: Solve division word problems involving multi-digit division with group size unknown and the number of groups unknown.
Date: 7/4/13

2.H.21

3. The area of a rectangle is 56.96 m^2. If the length is 16 m, what is its perimeter?

4. A city block is 3 times as long as it is wide. If the distance around the block is 0.48 kilometers, what is the area of the block in square meters?

COMMON CORE | **Lesson 29:** Solve division word problems involving multi-digit division with group size unknown and the number of groups unknown. **Date:** 7/4/13

engage^{ny} **2.H.22**

Name _____   Date _____

1.   Find the products.

      a.   1,900 × 20   b.   6,000 × 50   c.   250 × 300

2.   Explain how knowing 50 × 4 = 200 helps you find 500 × 400.

engage^ny   2.A.12

Name _____   Date _____

1. Round the factors and estimate the products.

    a. 656 × 106 ≈

    b. 3,108 × 7,942 ≈

    c. 425 × 9,311 ≈

    d. 8,633 × 57,008 ≈

COMMON CORE   **Lesson 2:**   Estimate multi-digit products by rounding factors to a basic fact and
                                    using place value patterns.
                   Date: 7/4/13

engage^{ny}   **2.A.25**

Name _____   Date _____

1. Draw a model then write the numerical expressions.

a. The difference between 8 forty-sevens and 7 forty-sevens	b. 6 times the sum of 12 and 8

2. Compare the two expressions using >, <, or =.

$62 \times (70 + 8)$	◯	$(70 + 8) \times 26$

COMMON CORE   **Lesson 3:**   Write and interpret numerical expressions and compare expressions using a visual model.
Date: 7/4/13

engage^ny   2.B.13

Name _____   Date _____

1. Solve using mental math. Draw a tape diagram and fill in the blanks to show your thinking.

a. 49 × 11 = _____ elevens Think: 50 elevens − 1 eleven = (_____ × 11) − (_____ × 11) = _____ − _____ = _____	b. 25 × 13 = _____ twenty-fives Think: _____ twenty-fives + _____ twenty-fives = (_____ × 25) + (_____ × 25) = _____ + _____ = _____

Common Core   **Lesson 4:**   Convert numerical expressions into unit form as a mental strategy for multi-digit multiplication.   **engage**^ny   **2.B.26**

Date: 7/4/13

Name _____   Date _____

1. Complete the area model then solve using the standard algorithm.

    a. $21 \times 23 =$ _____

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

    b. $143 \times 12 =$ _____

$$
\begin{array}{r}
1\ 4\ 3 \\
\times\ 1\ 2 \\
\hline
\end{array}
$$

Lesson 5:   Connect visual models and the distributive property to partial products of the standard algorithm without renaming.
Date: 7/4/13

engage^{ny}

2.B.40

Name _____   Date _____

1. Draw an area model, and then solve using the standard algorithm. Use arrows to match the partial products from your area model to the partial products in the algorithm.

a. $78 \times 42 =$ _____

$$
\begin{array}{r}
7\,8 \\
\times\,4\,2 \\
\hline
\end{array}
$$

b. $783 \times 42 =$ _____

$$
\begin{array}{r}
7\,8\,3 \\
\times\,\,4\,2 \\
\hline
\end{array}
$$

Lesson 6:   Connect area diagrams and the distributive property to partial products of the standard algorithm without renaming.
Date: 7/4/13

engage^ny

2.B.52

Name _____   Date _____

1. Draw an area model, and then solve using the standard algorithm.

    a.   642 × 257 = _____

$$\begin{array}{r} 6\ 4\ 2 \\ \times\ \ 2\ 5\ 7 \\ \hline \end{array}$$

    b.   642 × 207 = _____

$$\begin{array}{r} 6\ 4\ 2 \\ \times\ \ 2\ 0\ 7 \\ \hline \end{array}$$

COMMON CORE

Lesson 7:   Connect area diagrams and the distributive property to partial
products of the standard algorithm with renaming.
Date: 7/4/13

engage^ny   **2.B.66**

Name _____   Date _____

1. Estimate the product first. Solve by using the standard algorithm. Use your estimate to check the reasonableness of the product.

    a.   283 × 416 = _____

    $$\begin{array}{r} 2\ 8\ 3 \\ \times\ \ \ 4\ 1\ 6 \\ \hline \end{array}$$

      ≈ _____ × _____

      = _____

    b.   2,803 × 406 = _____

    $$\begin{array}{r} 2\ 8\ 0\ 3 \\ \times\ \ \ \ 4\ 0\ 6 \\ \hline \end{array}$$

      ≈ _____ × _____

      = _____

COMMON CORE

Lesson 8:   Fluently multiply multi-digit whole numbers using the standard algorithm and using estimation to check for reasonableness of the products.
Date: 7/4/13

engage^ny   **2.B.77**

Name _____   Date _____

Solve.

1. Juwad picked 30 bags of apples on Monday and sold them at his fruit stand for $3.45 each. The following week he picked and sold 6 bags more.
   a. How much money did Juwad earn in the first week?

   b. How much money did he earn in the second week?

   c. How much did Juwad earn selling bags of apples these two weeks?

   d. (Bonus) Each bag Juwad picked holds 15 apples. How many apples did he pick in two weeks? Write an expression to represent this statement.

Name _____   Date _____

1. Find the products using the area model and the standard algorithm.

    a. 33.2 × 21

    b. 1.7 × 55

2. If the product of 485 × 35 is 16,975, what is the product of 485 × 3.5? How do you know?

COMMON CORE

Lesson 10: Multiply decimal fractions with tenths by multi-digit whole numbers using place value understanding to record partial products.
Date: 7/4/13

engage^ny   2.C.10

Name _____   Date _____

Use estimation and place value reasoning to give the missing product. Explain how you know.

1. If 647 × 63 = 40,761   then   6.47 × 63 = _____

2. Solve using the standard algorithm.

    a. 6.13 × 14   b. 104.35 × 34

Lesson 11:   Multiply decimal fractions by multi-digit whole numbers through
                   conversion to a whole number problem and reasoning about the
                   placement of the decimal.
Date: 7/4/13

engage^ny   **2.C.22**

Name _____   Date _____

Find the product using the standard algorithm.

a. 3.03 × 402

b. 667 × 1.25

Lesson 12:   Reason about the product of a whole number and a decimal with
                  hundredths using place value understanding and estimation.
Date: 7/4/13

2.C.31

Name _____   Date _____

1. Convert.
    a.   37 L = _____ mL

    b.   _____ qt = 61 gal

    c.   45 kg = _____ g

Name _____   Date _____

1. Convert. Use your Reference Sheet if necessary.

    a. 3.9 km = _____ m

    b. _____ lb = 2.4 tons

    c. 13.5 qt = _____ pt

Name _____   Date _____

Solve.

1. While training for an Ironman competition, Johnson swam 0.86 km, biked for 22.4 km, and ran 4.25 km.

   a. Johnson completed this routine twice a week. How far did Johnson travel in one week while training, in meters?

   b. The following week Johnson decided to work harder. He still trained twice a week, but he doubled the length of his swim and his biking and tripled the amount he ran. How much further did he travel this week than he did in the first week, in meters?

COMMON CORE

Lesson 15:   Solve two-step word problems involving measurement and
              multi-digit multiplication.
Date: 7/4/13

engage^ny   2.D.35

Name _____   Date _____

1. Divide.

a. $17,000 \div 100$	b. $59,000 \div 1,000$
c. $12,000 \div 40$	d. $480,000 \div 600$

Name _____   Date _____

1. Estimate the quotient for the following problems.

a. $608 \div 23$ $\approx$ _____ $\div$ _____ $=$ _____	b. $913 \div 31$ $\approx$ _____ $\div$ _____ $=$ _____
c. $151 \div 39$ $\approx$ _____ $\div$ _____ $=$ _____	d. $481 \div 68$ $\approx$ _____ $\div$ _____ $=$ _____

Name _____   Date _____

1. Estimate the quotient for the following problems.

a. $6,523 \div 21$	b. $8,491 \div 37$
≈ _____ ÷ _____ = _____	≈ _____ ÷ _____ = _____
c. $3,704 \div 53$	d. $4,819 \div 68$
≈ _____ ÷ _____ = _____	≈ _____ ÷ _____ = _____

engage^ny   2.E.35

Name _____   Date _____

1. Divide, then check using multiplication.

    a. 73 ÷ 20

    b. 291 ÷ 30

Name _____   Date _____

1. Divide, then check with multiplication.

    a. $78 \div 21$

    b. $89 \div 37$

Lesson 20:   Divide two- and three-digit dividends by two-digit divisors with single-digit quotients and make connections to a written method.

Date: 7/4/13

engage^{ny}   2.F.22

Name _____   Date _____

1. Divide, then check using multiplication.

    a.   326 ÷ 53

    b.   192 ÷ 38

Lesson 21:   Divide two- and three-digit dividends by two-digit divisors with single-digit quotients and make connections to a written method.

Date: 7/4/13

engage^ny   2.F.34

Name _____   Date _____

1. Divide, then check using multiplication.

    a.   413 ÷ 19

    b.   708 ÷ 67

engage^ny   2.F.45

Name _____   Date _____

1. Divide, then check using multiplication.

    a. 8,283 ÷ 19

    b. 1,056 ÷ 37

Name _____   Date _____

1. Divide.

   a. 27.3 ÷ 3   b. 2.73 ÷ 30   c. 273 ÷ 300

2. If 7.29 ÷ 9 = 0.81, then the quotient of 7.29 ÷ 90 is _____. Use place value reasoning to explain the placement of the decimal point.

Lesson 24: Divide decimal dividends by multiples of 10, reasoning about the placement of the decimal point and making connections to a written method.

Date: 7/4/13

engage^ny   2.G.11

Name _____   Date _____

1. Estimate the quotients.

    a. 1.64 ÷ 22 ≈

    b. 123.8 ÷ 62 ≈

    c. 6.15 ÷ 31 ≈

Lesson 25:   Use basic facts to approximate decimal quotients with two-digit
Date: divisors reasoning about the placement of the decimal point.
7/4/13

2.G.22

COMMON CORE   engage^ny

Name _____   Date _____

1. Estimate. Then, divide using the standard algorithm and check.

   a. $45.15 \div 21$ b. $14.95 \div 65$

2. We learned today that division expressions that have the same quotient and remainders are not necessarily equal to each other. Explain how this is possible.

engage^{ny}

2.G.36

Name _____   Date _____

1. Divide
   a. $28 \div 32$

   b. $1{,}201.68 \div 24$

Lesson 27: Divide decimal dividends by two-digit divisors, estimating quotients, reasoning about the placement of the decimal point, and making connections to a written method.

Date: 7/4/13

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engage^{ny}

2.G.47

2.H.12

Name _____   Date _____

Solve this problem and show all your work.

1. Kenny is ordering uniforms for both the girls' and boys' tennis clubs. He is ordering shirts for 43 players and two coaches at a total cost of $658.35. In addition, he is ordering visors for each player at a total cost of $368.51. How much will each player pay for the shirt and visor?

Lesson 28:   Solve division word problems involving multi-digit division with
group size unknown and the number of groups unknown.
Date: 7/4/13

2.H.12

Name _____   Date _____

Solve.

Hayley borrowed $1,854 from her parents. She agreed to repay them in equal installments over the next 18 months. How much will Hayley still owe her parents after a year?

Lesson 29:   Solve division word problems involving multi-digit division with
group size unknown and the number of groups unknown.
Date: 7/4/13

engage^ny   **2.H.23**

Name _____   Date _____

1. Fill in the blanks using your knowledge of place value units and basic facts.

   a. 43 × 30

      Think: 43 ones × 3 tens = _____ tens

      43 × 30 = _____

   b. 430 × 30

      Think: 43 tens × 3 tens = _____hundreds

      430 × 30 = _____

   c. 830 × 20

      Think: 83 tens × 2 tens = 166_____

      830 × 20 = _____

   d. 4,400 × 400

      _____hundreds × _____ hundreds = 176 _____

      4,400 × 400 = _____

   e. 80 × 5,000

      _____ tens × _____ thousands = 40 _____

      80 × 5,000 = _____

2. Determine if these equations are true or false. Defend your answer using your knowledge of place value and the commutative, associative, and/or distributive properties.

   a. 35 hundreds = 5 tens × 7 tens

   b. 770 × 6 = 77 × 6 × 100

   c. 50 tens × 4 hundreds = 40 tens × 5 hundreds

   d. 24 × 10 × 90 = 90 × 2,400

3. Find the products. Show your thinking. The first row gives some ideas for showing your thinking.

   a. 5×5 5×50 50×50 50×500

   $= 25$ $= 25 \times 10$ $= (5 \times 10) \times (5 \times 10)$ $= (5 \times 5) \times (10 \times 100)$

   $= 250$ $= (5 \times 5) \times 100$ $= 25,000$

   $= 2,500$

   b. 80×5 80×50 800×500 $8,000 \times 50$

   c. 637×3 $6,370 \times 30$ $6,370 \times 300$ $63,700 \times 300$

4. A concrete stepping stone measures 20 inches square. What is the area of 30 such tiles?

5. A number is 42,300 when multiplied by 10. Find the product of this number and 500.

COMMON CORE   Lesson 1:   Multiply multi-digit whole numbers and multiples of 10 using place
                           value patterns and the distributive and associative properties.   engage^ny   2.A.14
               Date: 7/4/13

Name _____   Date _____

1. Round the factors to estimate the products.
    a. 697 × 82 ≈ _____ × _____ = _____

    A reasonable estimate for 697 × 82 is _____.

    b. 5,897 × 67 ≈ _____ × _____ = _____

    A reasonable estimate for 5,897 × 67 is _____.

    c. 8,840 × 45 ≈ _____ × _____ = _____

     A reasonable estimate for 8,840 × 45 is _____.

2. Complete the table using your understanding of place value and knowledge of rounding to estimate the product.

Factors	Rounded Factors	Estimate
a. 3,409 × 73	3,000 × 70	210,000
b. 82,290 × 240		
c. 9,832 × 39		
d. 98 tens × 36 tens		
e. 893 hundreds × 85 tens		

3. The estimated answer to a multiplication problem is 800,000. Which of the following expressions could result in this answer? Explain how you know.

    8,146 × 12   81,467 × 121   8,146 × 121   81,477 × 1,217

4. Fill in the blank with the missing estimate.

   a. $751 \times 34 \approx$ _____ $\times$ _____ $= 24{,}000$

   b. $627 \times 674 \approx$ _____ $\times$ _____ $= 420{,}000$

   c. $7{,}939 \times 541 \approx$ _____ $\times$ _____ $= 4{,}000{,}000$

5. In a single season the New York Yankees sell an average of 42,362 tickets for each of their 81 home games. About how many tickets do they sell for an entire season of home games?

6. Raphael wants to buy a new car.

   a. He needs a down payment of $3,000. If he saves $340 each month, about how many months will it take him to save the down payment?

   b. His new car payment will be $288 each month for five years. What is the total of these payments?

Name _____   Date _____

1. Draw a model then write the numerical expressions.

a. The sum of 21 and 4, doubled	b. 5 times the sum of 7 and 23
c. 2 times the difference between 49.5 and 37.5	d. The sum of 3 fifteens and 4 twos
e. The difference between 9 thirty-sevens and 8 thirty-sevens	f. Triple the sum of 45 and 55

2.   Write the numerical expressions in words.

Expression	Words	The Value of the Expression
a. 10 × (2.5 + 13.5)		
b. (98 – 78) × 11		
c. (71 + 29) × 26		
d. (50 × 2) + (15 × 2)		

3.   Compare the two expressions using >, <, or =. In the space beneath each pair of expressions, explain how you can compare without calculating. Draw a model if it helps you.

a. 93 × (40 + 2)	◯	(40 + 2) × 39
b. 61 × 25	◯	60 twenty-fives minus 1 twenty-five

COMMON CORE   Lesson 3:   Write and interpret numerical expressions and compare expressions
                         using a visual model.
                  Date: 7/4/13

engage^ny   2.B.15

4. Larry claims that (14 + 12) × (8 + 12) and (14 × 12) + (8 × 12) are equivalent because they have the same digits and the same operations.

   a. Is Larry correct? Explain your thinking.

   b. Which expression is greater? How much greater?

Common Core

Lesson 3: Write and interpret numerical expressions and compare expressions using a visual model.

Date: 7/4/13

engage^{ny}

2.B.16

Name _____   Date _____

1. Circle each expression that is not equivalent to the expression in **bold**.

    a. **37 × 19**

    37 nineteens   (30 × 19) – (7 × 29)   37 × (20 – 1)   (40 – 2) × 19

    b. **26 × 35**

    35 twenty-sixes   (26 + 30) × (26 + 5)   (26 × 30) + (26 × 5)   35 × (20 + 60)

    c. **34 × 89**

    34 × (80 + 9)   (34 × 8) + (34 × 9)   34 × (90 – 1)   89 thirty-fours

2. Solve using mental math. Draw a tape diagram and fill in the blanks to show your thinking. The first one was done for you.

    a. 19 × 50 = _____ fifties

50	50	50	...	50	50
1	2	3	...	19	20
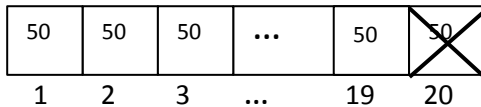
    Think: 20 fifties – 1 fifties

    = (_____ × 50) – (_____ × 50)

    = _____ – _____ = _____

    b. 11 × 26 = _____ twenty-sixes

    Think: _____ twenty-sixes + _____ twenty-sixes

    = (_____ × 26) + (_____ × 26)

    = _____ + _____ = _____

COMMON CORE   Lesson 4:   Convert numerical expressions into unit form as a mental strategy for multi-digit multiplication.
                Date: 7/4/13

engage^{ny}   2.B.27

c. 49 × 12 = _____ twelves

Think: _____ twelves – 1 twelves

    = (_____ × 12) – (_____ × 12)

    = _____ – _____ = _____

d. 12 × 25 = _____ seventy-fives

Think: ____ twenty-fives + ____ twenty-fives

    = (_____ × 25) + (_____ × 25)

    = _____ + _____ = _____

3. Define the unit in word form and complete the sequence of problems as was done in Problems 3–4 in the lesson.

a. 29 × 12 = 29 _____

Think: 30 _____ – 1 _____

    = 30 × _____) – (1 × _____)

    = _____ – _____ = _____

b. 11 × 31 = 31 _____

Think: 30 _____ + 1 _____

    = (30 × _____) + (1 × _____)

    = _____ + _____ = _____

c. 19 × 11 = 19 _____

Think: 20 _____ – 1 _____

    = (20 × _____) – (1 × _____)

    = _____ – _____ = _____

d. 50 × 13 = 13 _____

Think: 10 _____ + 3 _____

    = (10 × _____) + (3 × _____)

    = _____ – _____ = _____

COMMON CORE

Lesson 4:   Convert numerical expressions into unit form as a mental strategy
Date: for multi-digit multiplication.
        7/4/13

engage^ny

2.B.28

4. How can 12 × 50 help you find 12 × 49?

5. Solve mentally.

   a. 16 × 99 = _____

   b. 20 × 101 = _____

6. Joy is helping her father to build a deck that measures 14 ft by 19 ft. Find the area of the deck using a mental strategy. Explain your thinking.

7. The Lason School turns 101 years old in June. In order to celebrate, they ask each of the 23 classes to collect 101 items and make a collage. How many total items will be in the collage? Use mental math to solve. Explain your thinking.

Lesson 4:   Convert numerical expressions into unit form as a mental strategy for multi-digit multiplication.

Date: 7/4/13

engage^{ny}   2.B.29

Name _____   Date _____

1. Draw an area model then solve using the standard algorithm. Use arrows to match the partial products from the area model to the partial products in the algorithm.

   a. 24 × 21 = _____

$$
\begin{array}{r}
2\,4 \\
\times\ 2\,1 \\
\hline
\end{array}
$$

   b. 242 × 21 = _____

$$
\begin{array}{r}
2\,4\,2 \\
\times\ 2\,1 \\
\hline
\end{array}
$$

2. Solve using the standard algorithm.
   a. 314 × 22 = _____   b. 413 × 22 = _____   c. 213 × 32 = _____

Lesson 5: Connect visual models and the distributive property to partial products of the standard algorithm without renaming.

Date: 7/4/13

engage^ny   **2.B.41**

3. A young snake measures 0.23 m long. During the course of his lifetime, he will grow to be 13 times his current length. What will his length be when he's full grown?

4. Zenin earns $142 per shift at his new job. During a pay period, he works 12 shifts. What would his pay be for that period?

COMMON CORE

Lesson 5:   Connect visual models and the distributive property to partial products of the standard algorithm without renaming.

Date: 7/4/13

engage^{ny}   2.B.42

Name _____   Date _____

1. Draw an area model, and then solve using the standard algorithm. Use arrows to match the partial products from your area model to the partial products in the algorithm.

    a. $27 \times 36 =$ _____

$$
\begin{array}{r}
2\,7 \\
\times\ 3\,6 \\
\hline
\end{array}
$$

    b. $527 \times 36 =$ _____

$$
\begin{array}{r}
5\,2\,7 \\
\times\ 3\,6 \\
\hline
\end{array}
$$

2. Solve using the standard algorithm.
    a. 649×53

    c. 758×46

    b. 496×53

    d. 529×48

Lesson 6:   Connect area diagrams and the distributive property to partial products of the standard algorithm without renaming.
Date: 7/4/13

engage^{ny}   2.B.53

3. Each of the 25 students in Mr. McDonald's class sold 16 raffle tickets. If each ticket cost $15, how much money did Mr. McDonald's students raise?

4. Jayson buys a car and pays by installments. Each installment is $567 per month. After 48 months, Jayson owes $1250. What was the total price of the vehicle?

Lesson 6:   Connect area diagrams and the distributive property to partial products of the standard algorithm without renaming.

Date: 7/4/13

engage^{ny}   2.B.54

Name _____   Date _____

1. Draw an area model, and then solve using the standard algorithm. Use arrows to match the partial products from your area model to the partial products in your algorithm.

    a. 273 × 346 = _____

$$\begin{array}{r} 2\,7\,3 \\ \times\ \ 3\,4\,6 \\ \hline \end{array}$$

    b. 273 × 306 = _____

$$\begin{array}{r} 2\,7\,3 \\ \times\ \ 3\,0\,6 \\ \hline \end{array}$$

    c. Both Parts (a) and (b) have three-digit multipliers. Why are there three partial products in (a) and only two partial products in (b)?

COMMON CORE

Lesson 7:   Connect area diagrams and the distributive property to partial products of the standard algorithm with renaming.
Date: 7/4/13

engage^ny   2.B.67

2. Solve by drawing the area model and using the standard algorithm.

   a. 7,481 × 290 = _____   b. 7,018 × 209 = _____

3. Solve using the standard algorithm.

   a. 426 × 357   c. 426 × 307

   b. 1,426 × 357   d. 1,426 × 307

4. The Hudson Valley Renegades Stadium holds a maximum of 4,505 people. During the heights of their popularity, they sold out 219 consecutive games. How many tickets were sold during this time?

5. At the farmer's market, each of the 94 vendors makes $502 in profit each weekend. How much profit will all vendors make on Saturday?

Name _____   Date _____

1. Estimate the product first. Solve by using the standard algorithm. Use your estimate to check the reasonableness of the product.

a. 312 × 149 ≈ 300 × 100 = 30,000 3 1 2 × 1 4 9	b. 743 × 295	c. 428 × 637
d. 691 × 305	e. 4,208 × 606	f. 3,068 × 523
g. 430 × 3,064	h. 3,007 × 502	i. 254 × 6,104

COMMON CORE

Lesson 8: Fluently multiply multi-digit whole numbers using the standard algorithm and using estimation to check for reasonableness of the products.
Date: 7/4/13

engage^{ny}   **2.B.78**

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2. When multiplying 1,729 times 308, Clayton got a product of 53,253. Without calculating, does his product seem reasonable? Explain your thinking.

3. A publisher prints 1,912 copies of a book in each print run. If they print 305 runs, the manager wants to know about how many books will be printed. What's a reasonable estimate?

Name _____   Date _____

Solve.

1. Jeffery bought 203 sheets of stickers. Each sheet has a dozen stickers. He gave away 907 stickers to his family and friends on Valentine's Day. How many stickers does Jeffery have remaining?

2. During the 2011 season, a quarterback passed for 302 yards per game. He played in all 16 regular season games that year.
   a. How many total yards did the quarterback pass for?

   b. If he matches this passing total for each of the next 13 seasons, how many yards will he pass for in his career?

3. Bao saved $179 a month. He saved $145 less than Ada each month. How much would Ada save in three and a half years?

COMMON CORE | Lesson 9:   Fluently multiply multi-digit whole numbers using the standard
              | Date: algorithm to solve multi-step word problems.
              | 7/4/13

engage^ny   **2.B.88**

4. Mrs. Williams is knitting a blanket for her newborn granddaughter. The blanket is 2.25 meters long and 1.8 meters wide. What is the area of the blanket? Write the answer in centimeters.

5. Use the chart to solve.

Soccer Field Dimensions

	FIFA Regulation (in yards)	New York State High Schools (in yards)
Minimum Length	110	100
Maximum Length	120	120
Minimum Width	70	55
Maximum Width	80	80

a. Write an expression to find the difference in the maximum area and minimum area of a NYS high school soccer field. Then evaluate your expression.

b. Would a field with a width of 75 yards and an area of 7,500 square yards be within FIFA regulation? Why or why not?

c. It costs $26 to fertilize, water, mow, and maintain each square yard of a full size FIFA field (with maximum dimensions) before each game. How much will it cost to prepare the field for next week's match?

COMMON CORE

Lesson 9: Fluently multiply multi-digit whole numbers using the standard algorithm to solve multi-step word problems.
Date: 7/4/13

engage^ny 2.B.89

Name _____   Date _____

1. Estimate the product. Solve using an area model and the standard algorithm. Remember to express your products in standard form.

    a. 53 × 1.2 ≈ _____ × _____ =_____

    $$\begin{array}{r} 1\ 2\ \text{(tenths)} \\ \times\ 5\ 3 \\ \hline \end{array}$$

    b. 2.1 × 82 ≈ _____ × _____ =_____

    $$\begin{array}{r} 2\ 1\ \text{(tenths)} \\ \times\ 8\ 2 \\ \hline \end{array}$$

2. Estimate, and then use the standard algorithm to solve. Express your products in standard form.

    a. 4.2 × 34 ≈ _____ × _____ = _____

    $$\begin{array}{r} 4\ 2\ \ \text{(tenths)} \\ \times\ 3\ 4 \\ \hline \end{array}$$

    b. 65 × 5.8 ≈ _____ × _____ = _____

    $$\begin{array}{r} 5\ 8\ \text{(tenths)} \\ \times\ 6\ 5 \\ \hline \end{array}$$

COMMON CORE | **Lesson 10:** | Multiply decimal fractions with tenths by multi-digit whole numbers using place value understanding to record partial products.   **engage**^ny   2.C.11
| **Date:** | 7/4/13

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c. 3.3×16

d. 15.6×17

e. 73×2.4

f. 193.5×57
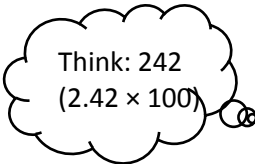
3. Mr. Jansen is building an ice rink in his backyard that will measure 8.4 meters by 22 meters. What is the area of the rink?

4. Rachel runs 3.2 miles each week day and 1.5 miles each day of the weekend. How many miles will she have run in 6 weeks?
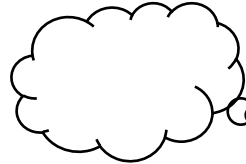
COMMON CORE

Lesson 10:   Multiply decimal fractions with tenths by multi-digit whole numbers
Date: 7/4/13   using place value understanding to record partial products.

engage^ny

2.C.12

Name _____   Date _____

1. Estimate the product. Solve using the standard algorithm. Use the thought bubbles to show your thinking. (Draw an area model on a separate sheet if it helps you.)

a. $2.42 \times 12 \approx$ _____ $\times$ _____ $=$ _____

Think: 242
(2.42 × 100)

$$2.42$$
$$\times\ 12$$

b. $4.13 \times 37 \approx$ _____ $\times$ _____ $=$ _____

$$4.13$$
$$\times\ 37$$

Think! 2904 is 100 times too large! What is the real product?
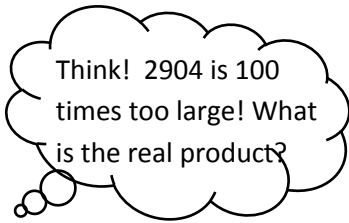
$2.42 \times 12 =$ _____

$4.13 \times 37 =$ _____

2. Solve using the standard algorithm.

a. 2.03×13

c. 371.23×53

b. 53.16×34

d. 1.57×432

	Lesson 11:	Multiply decimal fractions by multi-digit whole numbers through conversion to a whole number problem and reasoning about the placement of the decimal.	engage^ny	2.C.23
COMMON CORE	Date:	7/4/13		

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3. Use the whole number product and place value reasoning to place the decimal point in the second product. Explain how you know.

   a. If 36 × 134 = 4,824   then   36 × 1.34 = _____

   b. If 84 × 2,674 = 224,616   then   84 × 26.74 = _____

   c. 19 × 3,211 = 61,009   then   321.1 × 19 = _____

4. A slice of pizza costs $1.57. How much does 27 slices cost?

5. A spool of ribbon holds 6.75 meters. If the craft club buys 21 spools:

   a. What is the total cost if the ribbon sells for $2 per meter?

   b. If the club uses 76.54 meters to complete a project, how much ribbon will be left?

COMMON CORE

Lesson 11:   Multiply decimal fractions by multi-digit whole numbers through
              conversion to a whole number problem and reasoning about the
              placement of the decimal.
Date: 7/4/13

engage^ny   2.C.24

Name _____   Date _____

1. Estimate, and then solve using the standard algorithm. You may draw an area model if it helps you.

    a. $24 \times 2.31 \approx$ _____ $\times$ _____ = _____

$$\begin{array}{r} 2.31 \\ \times\ \ 24 \\ \hline \end{array}$$

    b. $5.42 \times 305 \approx$ _____ $\times$ _____ = _____

$$\begin{array}{r} 5.42 \\ \times 305 \\ \hline \end{array}$$

2. Estimate, and then solve using the standard algorithm. Use a separate sheet to draw the area model if it helps you.

    a. 1.23×21 b. 3.2×41

    c. 0.32×41 d. 0.54×62

![Common Core logo] | **Lesson 12:** Reason about the product of a whole number and a decimal with hundredths using place value understanding and estimation. | engage^ny | **2.C.32**

Date: 7/4/13

e. 6.09 × 28

f. 6.83 × 683

g. 6.09 × 208

h. 171.76 × 555

3. Eric walks 2.75 miles to and from work every day for an entire year. How many miles did he walk?

4. Art galleries often price paintings by the square inch. If a painting measures 22.5 inches by 34 inches and costs $4.15 per square inch, what is the selling price for the painting?

5. Gerry spends $1.25 each day on lunch at school. On Fridays she buys an extra snack for $0.55. How much money will she spend in two weeks?

Name _____   Date _____

1. Complete the chart below with the measurement equivalents.

Liters	Milliliters
1	
2	
3	
4	
10	
15	
30	
100	

Quarts	Gallons
	1
	2
	3
	4
	10
	15
	30
	100

2. Convert.
   a. 18 yd = _____ ft

   b. _____ oz = 23 lb

   c. _____ cm = 64 m

   d. 72 kl = _____ L

   e. 2 mi = _____ yd = _____ ft

   f. _____ g = 35 kg

   g. 5 km 14 m = _____ m

   h. 31 gal = _____ qt = _____ pt

   i. _____ fl oz = 56 c

COMMON CORE

Lesson 13: Use whole number multiplication to express equivalent measurements.

Date: 7/4/13

engage^ny

2.D.12

3. Jesse needs 13 gallons of paint to finish painting the exterior of his barn. If he uses 10 quarts of the paint for the doors, how many quarts will be left for the siding on the barn?

4. Ms. Lane's laptop stays on for 6 hours without being plugged in, and Mr. Trevor's laptop stays powered for 400 minutes. Whose laptop lasts longer?

5. The food pantry distributes 10-oz bags of rice. If three 5-lb bags are donated to the pantry, how many 10-ounce bags can be made?

COMMON CORE

Lesson 13:   Use whole number multiplication to express equivalent measurements.
Date: 7/4/13

engage^ny   2.D.13

Name _____   Date _____

1. Convert. Use your Reference Sheet if necessary.

    a. 2.7 kL = _____ L   d. 9.13 kg = _____ g   g. 1.3 tons = _____ lb

    b. _____ fl oz = 4.25 c   e. 4.75 gal = _____ qt   h. 0.75 mi = _____ yd

    c. _____ m = 1.45 km   f. _____ pt = 12.5 qt   i. _____ oz = 8.5 lb

2. Jennifer wants to convert 7.85 meters to centimeters, but she does not have paper, pencil, or a calculator. Describe a method she can use.

3. A standard hot tub holds 2.3 kiloliters of water. After filling up two of nine hot tubs, Johnson's water service truck empties. How many liters of water are still needed to fill the remaining tubs?

Name _____   Date _____

Solve.

1. Jocelyn borrowed 3.75 kg of flour from her grandmother to bake 3 batches of cookies and 2 cakes. Each cookie recipe called for 225 grams of flour. Each cake recipe needed 1.2 kg of flour. After baking, how much flour was Jocelyn able to return to her grandmother?

2. The new athletic facility on the downtown campus measures 0.74 km by 0.4 km. How many square meters is the facility?

3. It is recommended that athletes drink a minimum of 0.24 L of water for every 20 minutes of athletic activity. John plays tennis for 3 hours. His water bottle holds 1,500 mL. Will he have enough water to meet the minimum requirement? If so, how much water will he have left? If not, what is the least amount of water he will need to put in his bottle when it is empty? Express your answer in liters.

4. A Rottweiler gave birth to 3 puppies. The first puppy weighed 5.1 kg. The second weighed 206 g less than the first. The third puppy weighed 0.2 kg more than the second.
    a. What is the total weight of the litter in grams?

    b. How much more did the heaviest puppy weight than the lightest one?

    c. The mother weighed 4 times the total weight of her litter. What was her weight in kilograms?

5. A courier charges $6.25 to ship a 2 lb-package. For each ounce over 2 lb, they charge an additional $0.35 per ounce.
    a. How much would it cost to ship a package weighing 4 lb 6 oz?

    b. Which would be less expensive? Sending two packages weighing 2 lb 4 oz each, or combining them into one package weighing 4 lb 8 oz? What is the difference in price?

Name _____   Date _____

1. Divide. Draw number disks to show your thinking for (a) and (c). You may draw disks on your personal white board to solve the others if necessary.

a. $300 \div 10$	b. $450 \div 10$
c. $18{,}000 \div 100$	d. $730{,}000 \div 100$
e. $900{,}000 \div 1{,}000$	f. $680{,}000 \div 1{,}000$

2. Divide. The first one is done for you.

a. $18{,}000 \div 20$ $= 18{,}000 \div 10 \div 2$ $= 1{,}800 \div 2$ $= 900$	b. $18{,}000 \div 200$	c. $18{,}000 \div 2{,}000$
d. $420{,}000 \div 60$	e. $420{,}000 \div 600$	f. $420{,}000 \div 6{,}000$

COMMON CORE

Lesson 16:   Use *divide by 10* patterns for multi-digit whole number division.
Date: 7/4/13

engage^{ny}

2.E.14

g. 24,000 ÷ 30	h. 560,000 ÷ 700	i. 450,000 ÷ 9,000

3. A stadium holds 50,000 people. The stadium is divided into 250 different seating sections. How many seats are in each section?

4. Over the course of a year, a tractor-trailer commutes 160,000 miles across America.
   a. Assuming a trucker changes his tires every 40,000 miles, and that he starts with a brand new set of tires, how many sets of tires will he use in a year?

   b. If the trucker changes the oil every 10,000 miles and he starts the year with a fresh oil change, how many times will he change the oil in a year?

Lesson 16: Use *divide by 10* patterns for multi-digit whole number division.
Date: 7/4/13

COMMON CORE

engage^ny

2.E.15

Name _____   Date _____

1. Estimate the quotient for the following problems. The first one is done for you.

a. 821 ÷ 41 ≈ 800 ÷ 40 = 20	b. 617 ÷ 23 ≈ _____ ÷ _____ = _____	c. 821 ÷ 39 ≈ _____ ÷ _____ = _____
d. 482 ÷ 52 ≈ _____ ÷ _____ = _____	e. 531 ÷ 48 ≈ _____ ÷ _____ = _____	f. 141 ÷ 73 ≈ _____ ÷ _____ = _____
g. 476 ÷ 81 ≈ _____ ÷ _____ = _____	h. 645 ÷ 69 ≈ _____ ÷ _____ = _____	i. 599 ÷ 99 ≈ _____ ÷ _____ = _____
j. 301 ÷ 26 ≈ _____ ÷ _____ = _____	k. 729 ÷ 81 ≈ _____ ÷ _____ = _____	l. 636 ÷ 25 ≈ _____ ÷ _____ = _____

m. 835 ÷ 89	n. 345 ÷ 72	o. 559 ÷ 11
≈ _____ ÷ _____ = _____	≈ _____ ÷ _____ = _____	≈ _____ ÷ _____ = _____

2. Mrs. Johnson spent $611 buying lunch for 78 students. If all of the lunches were the same cost, about how much did she spend on each lunch?

3. An oil well produces 172 gallons of oil every day. A standard oil barrel holds 42 gallons of oil. About how many barrels of oil will the well produce in one day? Explain your thinking.

Name _____ Date _____

1. Estimate the quotient for the following problems. The first one is done for you.

a. $8,328 \div 41$ $\approx 8,000 \div 40$ $= 200$	b. $2,109 \div 23$ $\approx$ _____ $\div$ _____ $=$ _____	c. $8,215 \div 38$ $\approx$ _____ $\div$ _____ $=$ _____
d. $3,861 \div 59$ $\approx$ _____ $\div$ _____ $=$ _____	e. $2,899 \div 66$ $\approx$ _____ $\div$ _____ $=$ _____	f. $5,576 \div 92$ $\approx$ _____ $\div$ _____ $=$ _____
g. $5,086 \div 73$ $\approx$ _____ $\div$ _____ $=$ _____	h. $8,432 \div 81$ $\approx$ _____ $\div$ _____ $=$ _____	i. $9,032 \div 89$ $\approx$ _____ $\div$ _____ $=$ _____
j. $2,759 \div 48$ $\approx$ _____ $\div$ _____ $=$ _____	k. $8,194 \div 91$ $\approx$ _____ $\div$ _____ $=$ _____	l. $4,368 \div 63$ $\approx$ _____ $\div$ _____ $=$ _____
m. $6,537 \div 74$ $\approx$ _____ $\div$ _____ $=$ _____	n. $4,998 \div 48$ $\approx$ _____ $\div$ _____ $=$ _____	o. $6,106 \div 25$ $\approx$ _____ $\div$ _____ $=$ _____

2. 91 boxes of apples hold a total of 2,605 apples. Assuming each box has about the same number of apples, estimate the number of apples in each box.

3. A wild tiger can eat up to 55 pounds of meat in a day. About how many days would it take for a tiger to eat the following prey?

Prey	Weight of Prey	Number of Days
Eland Antelope	1,754 pounds	
Boar	661 pounds	
Chital Deer	183 pounds	
Water Buffalo	2,322 pounds	

COMMON CORE

Lesson 18:   Use basic facts to approximate quotients with two-digit divisors.
Date: 7/4/13

engage^ny   2.E.37

Name _____   Date _____

1. Divide, then check using multiplication. The first one is done for you.

   a. 71 ÷ 20

                      3   R 11
          2   0 | 7   1
                    6   0
                    1   1

   Check:

   20 × 3 = 60

   60 + 11 = 71

   b. 90 ÷ 40

   c. 95 ÷ 60

   d. 280 ÷ 30

   e. 437 ÷ 60

   f. 346 ÷ 80

2. A number divided by 40 has a quotient of 6 with a remainder of 16. Find the number.

3. A shipment of 288 textbooks has been delivered. Each of the 10 classrooms will receive an equal share of the books, with any extra books being stored in the bookroom. After the texts have been distributed to the classrooms, how many will be stored in the bookroom?

4. How many sixties are in two hundred forty-four?

Lesson 19:   Divide two- and three-digit dividends by multiples of 10 with single-
           digit quotients and make connections to a written method.   **engage**^ny   2.F.12
Date: 7/4/13

Name _____   Date _____

1. Divide, then check with multiplication. The first one is done for you.

    a. $72 \div 31$

                 2   R 10   Check:
        3   1 | 7   2 $31 \times 2 = 62$
            -   6   2
                1   0 $62 + 10 = 72$

    d. $67 \div 19$

    b. $89 \div 21$

    e. $79 \div 25$

    c. $94 \div 33$

    f. $83 \div 21$

2. A 189-square-foot rectangular office has a length of 21 feet. What is the width of the office?

3. While preparing for a morning conference, Principal Corsetti is laying out 15 dozen bagels on square plates. Each plate can hold 14 bagels.

    a. How many plates of bagels will Mr. Corsetti have?

    b. How many more bagels would be needed to fill the final plate with bagels?

COMMON CORE

Lesson 20:   Divide two- and three-digit dividends by two-digit divisors with
             single-digit quotients and make connections to a written method.
Date: 7/4/13

engage^ny

2.F.24

Name _____ Date _____

1. Divide, then check using multiplication. The first one is done for you.

   a. 129 ÷ 21

   ```
               6   R 3
      2  1 | 1  2  9
         -   1  2  6
                    3
   ```

   Check:

   21 × 6 = 126

   126 + 3 = 129

   b. 158 ÷ 37

   c. 261 ÷ 49

   d. 574 ÷ 82

   e. 464 ÷ 58

   f. 640 ÷ 9

Lesson 21: Divide two- and three-digit dividends by two-digit divisors with single-digit quotients and make connections to a written method.
Date: 7/4/13

engage^{ny} 2.F.35

2. It takes Juwan exactly 35 minutes by car to get to his grandmother's. The nearest parking area is a 4-minute walk from her apartment. One week he visited more often. He realized that he spent 5 hours and 12 minutes traveling to her apartment and then back home. How many round trips did he make to visit his grandmother?

3. How many eighty-fours are in 672?

COMMON CORE

Lesson 21:

Date:

Divide two- and three-digit dividends by two-digit divisors with single-digit quotients and make connections to a written method.

7/4/13

engage^{ny}

2.F.36

Name _____   Date _____

1. Divide, then check using multiplication. The first one is done for you.

   a. 487 ÷ 21

   ```
              2   3   R4
      2  1 | 4  8   7
         -   4  2
             6   7
             6   3
                 4
   ```

   Check:

   $21 \times 23 = 483$

   $483 + 4 = 487$

   b. 485 ÷ 15

   c. 700 ÷ 21

   d. 399 ÷ 31

   e. 820 ÷ 42

Lesson 22:   Divide three- and four-digit dividends by two-digit divisors resulting in two- and three-digit quotients reasoning about the decomposition of successive remainder in each place value.

Date: 7/4/13

engage^{ny}   2.F.46

f.   908 ÷ 56

2. When dividing 2,458 by 51, a student finds a quotient of 48 with a remainder of 11. Check the student's work, and use the check to find the error in their solution.

3. A baker was going to arrange 432 desserts into rows of 28. The baker divides 432 by 28 and gets a quotient of 15 with remainder 12. Explain what the quotient and remainder represent.

Lesson 22:   Divide three- and four-digit dividends by two-digit divisors resulting in two- and three-digit quotients reasoning about the decomposition of successive remainder in each place value.

Date: 7/4/13

2.F.47

Name _____   Date _____

1. Divide, then check using multiplication.

    a. 9,962 ÷ 41   b. 1,495 ÷ 45

    c. 6,691 ÷ 28   d. 2,625 ÷ 32

    e. 2,409 ÷ 19   f. 5,821 ÷ 62

2. A political gathering in South America held 788 people. Each of South America's 14 countries were equally represented. The remaining people were guests from the United States. How many guests were from the United States?

3. A chocolate company is packaging 32 ounces of caramels into reusable, plastic cups. When a shipping box is filled with these caramel packages, it weighs 49 pounds 8 ounces.

    a. How many caramel filled cups are in the box?

    b. Use your remainder to find the weight of each plastic cup.

Lesson 23:   Divide three- and four-digit dividends by two-digit divisors resulting
              in two- and three-digit quotients reasoning about the
              decomposition of successive remainders in each place value.
Date: 7/4/13

Name _____   Date _____

1. Divide. Show the division in the right column in two steps.   The first two have been done for you.

   a.   1.8 ÷ 6 = 0.3   g.   0.8 ÷ 4 = _____

   b.   1.8 ÷ 60 = (1.8 ÷ 6) ÷ 10 = 0.3 ÷ 10 = 0.03   h.   80 ÷ 400 = _____

   c.   2.4 ÷ 8 = _____   i.   0.56 ÷ 7 = _____

   d.   2.4 ÷ 80 = _____   j.   0.56 ÷ 70 = _____

   e.   14.6 ÷ 2 = _____   k.   9.45 ÷ 9 = _____

   f.   14.6 ÷ 20 = _____   l.   9.45 ÷ 900 =_____

	Lesson 24:	Divide decimal dividends by multiples of 10, reasoning about the placement of the decimal point and making connections to a written method.	engage^ny	2.G.12
COMMON CORE	Date:	7/4/13		

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2. Use place value reasoning and the first quotient to compute the second quotient. Use place value to explain how you placed the decimal point.
   a. $65.6 \div 80 = 0.82$

      $65.6 \div 8 = $ _____

   b. $2.5 \div 50 = 0.65$

      $2.5 \div 5 = $ _____

   c. $19.2 \div 40 = 0.48$

      $19.2 \div 4 = $ _____

   d. $39.6 \div 6 = 6.6$

      $39.6 \div 60 = $ _____

3. Chris rode his bike along the same route every day for 60 days. He logged that he had gone exactly 127.8 miles.
   a. How many miles did he bike each day? Show your work to explain how you know.

   b. How many miles did he bike over the course of two weeks?

4. 2.1 liters of coffee were equally distributed to 30 cups. How many milliliters of coffee were in each cup?

Name _____   Date _____

1. Estimate the quotients.

    a. $3.53 \div 51 \approx$

    b. $24.2 \div 42 \approx$

    c. $9.13 \div 23 \approx$

    d. $79.2 \div 39 \approx$

    e. $7.19 \div 58 \approx$

2. Estimate the quotient in (a). Use your estimated quotient to estimate (b) and (c).

    a. $9.13 \div 42 \approx$

    b. $913 \div 42 \approx$

    c. $91.3 \div 42 \approx$

Lesson 25: | Use basic facts to approximate decimal quotients with two-digit divisors reasoning about the placement of the decimal point.

Date: | 7/4/13

2.G.23

engage^ny

3. Mrs. Huynh bought a bag of 3 dozen toy animals as party favors for her son's birthday party for $28.97. Estimate the price of each toy animal.

4. Carter drank 15.75 gallons of water in 4 weeks. He drank the same amount of water each day.

   a. Estimate how many gallons he drank in one day.

   b. Estimate how many gallons he drank in one week.

   c. About how many days altogether will it take him to drink 20 gallons?

COMMON CORE

Lesson 25: Use basic facts to approximate decimal quotients with two-digit divisors reasoning about the placement of the decimal point.

Date: 7/4/13

engage^ny

2.G.24

Name _____   Date _____

1. Create two whole number division problems that have a quotient of 9 and a remainder of 5. Justify which is greater using decimal division.

2. Divide, then check your work with multiplication.

   a. 75.9 ÷ 22   c. 77.14 ÷ 38

   b. 97.28 ÷ 19   d. 12.18 ÷ 29

3. Divide.

   a. 5,224 ÷ 43   b. 1,908 ÷ 36

Lesson 26: Divide decimal dividends by two-digit divisors, estimating quotients, reasoning about the placement of the decimal point, and making connections to a written method.
Date: 7/4/13

2.G.37

4. Use the quotients in Problem 3 to write the quotients for the following. Explain how you decided where to place the decimal in the quotient.

   a. $522.4 \div 43$ = _____ $52.24 \div 43$ = _____

   b. $190.8 \div 36$ = _____ $19.08 \div 36$ = _____

5. The height of Burj Dubai, the tallest building in the world (2013), has a total of 162 stories. If the building is 828 meters tall, about how many meters tall is each story?

6. Elaine has a desktop that is 4.5 feet by 5.5 feet, and she is going to cover it with patches of wallpaper that each measure 18 inches wide and 24 inches long.

   How many patches will Elaine need to cover the entire desktop? Justify your answer.

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Lesson 26: Divide decimal dividends by two-digit divisors, estimating quotients, reasoning about the placement of the decimal point, and making connections to a written method.

Date: 7/4/13

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engage^ny

2.G.38

Name _____   Date _____

1. Divide and check.

   a. 7 ÷ 28   c. 6.5 ÷ 13   e. 561.68 ÷ 28

   b. 51 ÷ 25   d. 132.16 ÷ 16   f. 604.8 ÷ 36

2. In a science class, students water a plant with the same amount of water each day for 28 consecutive days. If the students use a total of 23.8 liters of water over the 28 days, how many liters of water did they use each day? How many milliliters did they use each day?

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Lesson 27:   Divide decimal dividends by two-digit divisors, estimating quotients, reasoning about the placement of the decimal point, and making connections to a written method.
Date: 7/4/13

engage^{ny} **2.G.48**

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3. A seamstress has a piece of cloth that is 3 yards long. She cuts it into shorter lengths of 16 inches each. How many of the shorter pieces can she cut?

4. Jenny filled 12 pitchers with an equal amount of lemonade in each. The total amount of lemonade in the 12 pitchers was 41.4 liters. How much lemonade would be in 7 pitchers?

Lesson 27: Divide decimal dividends by two-digit divisors, estimating quotients, reasoning about the placement of the decimal point, and making connections to a written method.

Date: 7/4/13

engage^ny   **2.G.49**

Name _____   Date _____

1. Mr. Rice needs to replace the 166.25 ft of edging on the flower beds in his backyard. The edging is sold in length of 19 ft each. How many lengths of edging will he need to purchase?

2. Olivia is making granola bars and will use 17.9 oz of pistachios, 12.6 oz of almonds, 12.5 oz of sunflower seeds, and 12.5 oz of cashews. This amount makes 25 bars. What is the total amount of nuts in each bar?

3. Adam has 16.45 kg of flour and he uses 6.4 kg to make hot cross buns. The remaining flour is exactly enough to make 15 batches of scones. How much flour will be in each batch?

4. There are 90 fifth grade students going on a field trip. Each one pays the teacher $9.25 to cover admission to the theater and lunch. Admission for the students will cost $315 and each one gets and equal amount to spend on lunch. How much will each fifth grader be able to spend on lunch?

5. Ben is making math manipulatives to sell. He needs to make at least $450. Each manipulative costs $18 to make. He is selling them for $30 each. What is the minimum number he can sell to reach his goal?

COMMON CORE

Lesson 28:   Solve division word problems involving multi-digit division with group size unknown and the number of groups unknown.
Date: 7/4/13

engage^{ny}   2.H.14

Name _____   Date _____

Directions: Solve the word problems using the bar model.

1. Michelle wants to save $150 for a trip to Six Flags Amusement Park. If she saves $12 each week, how many weeks will it take her to save enough money for the trip?

2. Karen works for 85 hours over a two week period. She earns $1,891.25 over this period. How much does Karen earn for 8 hours of work?

3. The area of a rectangle is 256.5 m^2. If the length is 18 m, what is the perimeter of the rectangle?

4. Tyler baked 702 cookies. He sold them in boxes of 18. After selling all the boxes of cookies, he earned $136.50. What was the cost of one box of cookies?

5. A park is 4 times as long as it is wide. If the distance around the park is 12.5 kilometers, what is the area of the park?

Lesson 29:   Solve division word problems involving multi-digit division with group size unknown and the number of groups unknown.

Date: 7/4/13

engage^{ny}

2.H.25

A

Correct _____

Multiply.

1	9 x 10 =		23	73 x 1,000 =	
2	9 x 100 =		24	60 x 10 =	
3	9 x 1,000 =		25	600 x 10 =	
4	8 x 10 =		26	600 x 100 =	
5	80 x 10 =		27	65 x 100 =	
6	80 x 100 =		28	652 x 100 =	
7	80 x 1,000 =		29	342 x 100 =	
8	7 x 10 =		30	800 x 100 =	
9	70 x 10 =		31	800 x 1,000 =	
10	700 x 10 =		32	860 x 1,000 =	
11	700 x 100 =		33	867 x 1,000 =	
12	700 x 1,000 =		34	492 x 1,000 =	
13	2 x 10 =		35	34 x 10 =	
14	30 x 10 =		36	629 x 10 =	
15	32 x 10 =		37	94 x 100 =	
16	4 x 10 =		38	238 x 100 =	
17	50 x 10 =		39	47 x 1,000 =	
18	54 x 10 =		40	294 x 1,000 =	
19	37 x 10 =		41	174 x 100 =	
20	84 x 10 =		42	285 x 1,000 =	
21	84 x 100 =		43	951 x 100 =	
22	84 x 1,000 =		44	129 x 1,000 =	

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Lesson 2: Estimate multi-digit products by rounding factors to a basic fact and using place value patterns.

Date: 7/4/13

engage^ny

2.A.21

B

Multiply.

Improvement _____   # Correct _____

1	8 x 10 =		23	37 x 1,000 =	
2	8 x 100 =		24	50 x 10 =	
3	8 x 1,000 =		25	500 x 10 =	
4	7 x 10 =		26	500 x 100 =	
5	70 x 10 =		27	56 x 100 =	
6	70 x 100 =		28	562 x 100 =	
7	70 x 1,000 =		29	432 x 100 =	
8	6 x 10 =		30	700 x 100 =	
9	60 x 10 =		31	700 x 1,000 =	
10	600 x 10 =		32	760 x 1,000 =	
11	600 x 100 =		33	765 x 1,000 =	
12	600 x 1,000 =		34	942 x 1,000 =	
13	3 x 10 =		35	74 x 10 =	
14	20 x 10 =		36	269 x 10 =	
15	23 x 10 =		37	49 x 100 =	
16	5 x 10 =		38	328 x 100 =	
17	40 x 10 =		39	37 x 1,000 =	
18	45 x 10 =		40	924 x 1,000 =	
19	73 x 10 =		41	147 x 100 =	
20	48 x 10 =		42	825 x 1,000 =	
21	48 x 100 =		43	651 x 100 =	
22	48 x 1,000 =		44	192 x 1,000 =	

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COMMON CORE

Lesson 2: Estimate multi-digit products by rounding factors to a basic fact and using place value patterns.

Date: 7/4/13

engage^{ny}

2.A.22

Estimate and then multiply.

1	29 x 11 ≈		23	801 x 31 ≈	
2	29 x 21 ≈		24	803 x 31 ≈	
3	29 x 31 ≈		25	703 x 31 ≈	
4	23 x 12 ≈		26	43 x 34 ≈	
5	23 x 22 ≈		27	53 x 34 ≈	
6	23 x 32 ≈		28	53 x 31 ≈	
7	23 x 42 ≈		29	53 x 51 ≈	
8	37 x 13 ≈		30	93 x 31 ≈	
9	37 x 23 ≈		31	913 x 31 ≈	
10	36 x 24 ≈		32	73 x 31 ≈	
11	24 x 36 ≈		33	723 x 31 ≈	
12	43 x 11 ≈		34	78 x 34 ≈	
13	43 x 21 ≈		35	798 x 34 ≈	
14	403 x 21 ≈		36	62 x 33 ≈	
15	303 x 21 ≈		37	642 x 33 ≈	
16	203 x 21 ≈		38	374 x 64 ≈	
17	41 x 11 ≈		39	64 x 374 ≈	
18	41 x 21 ≈		40	740 x 36 ≈	
19	41 x 31 ≈		41	750 x 36 ≈	
20	401 x 31 ≈		42	65 x 680 ≈	
21	501 x 31 ≈		43	849 x 84 ≈	
22	601 x 31 ≈		44	85 x 849 ≈	

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Solve.

1	5 x 100 =		23	5000 - 50 =	
2	500 - 5 =		24	50 x 99 =	
3	5 x 99 =		25	80 x 100 =	
4	3 x 100 =		26	80 x 99 =	
5	300 - 3 =		27	60 x 100 =	
6	3 x 99 =		28	60 x 99 =	
7	2 x 100 =		29	11 x 100 =	
8	200 - 2 =		30	1100 - 11 =	
9	2 x 99 =		31	11 x 99 =	
10	6 x 100 =		32	21 x 100 =	
11	600 - 6 =		33	2100 - 21 =	
12	6 x 99 =		34	21 x 99 =	
13	4 x 100 =		35	31 x 100 =	
14	4 x 99 =		36	31 x 99 =	
15	7 x 100 =		37	71 x 100 =	
16	7 x 99 =		38	71 x 99 =	
17	9 x 100 =		39	42 x 100 =	
18	9 x 99 =		40	42 x 99 =	
19	8 x 100 =		41	53 x 99 =	
20	8 x 99 =		42	64 x 99 =	
21	5 x 100 =		43	75 x 99 =	
22	50 x 100 =		44	97 x 99 =	

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Lesson 6: Connect area diagrams and the distributive property to partial products of the standard algorithm without renaming.

Date: 7/4/13

engage^ny   2.B.49

A

Correct _____

Multiply.

1	2 x 10 =		23	33 x 20 =	
2	12 x 10 =		24	33 x 200 =	
3	12 x 100 =		25	24 x 10 =	
4	4 x 10 =		26	24 x 20 =	
5	34 x 10 =		27	24 x 100 =	
6	34 x 100 =		28	24 x 200 =	
7	7 x 10 =		29	23 x 30 =	
8	27 x 10 =		30	23 x 300 =	
9	27 x 100 =		31	71 x 2 =	
10	3 x 10 =		32	71 x 20 =	
11	3 x 2 =		33	14 x 2 =	
12	3 x 20 =		34	14 x 3 =	
13	13 x 10 =		35	14 x 30 =	
14	13 x 2 =		36	14 x 300 =	
15	13 x 20 =		37	82 x 20 =	
16	13 x 100 =		38	15 x 300 =	
17	13 x 200 =		39	71 x 600 =	
18	2 x 4 =		40	18 x 40 =	
19	22 x 4 =		41	75 x 30 =	
20	22 x 40 =		42	84 x 300 =	
21	22 x 400 =		43	87 x 60 =	
22	33 x 2 =		44	79 x 800 =	

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Lesson 7:

Connect area diagrams and the distributive property to partial products of the standard algorithm with renaming.

Date: 7/4/13

engage^{ny}   2.B.61

B

Improvement _____   # Correct _____

Multiply.

1	3 x 10 =		23	44 x 20 =	
2	13 x 10 =		24	44 x 200 =	
3	13 x 100 =		25	42 x 10 =	
4	5 x 10 =		26	42 x 20 =	
5	35 x 10 =		27	42 x 100 =	
6	35 x 100 =		28	42 x 200 =	
7	8 x 10 =		29	32 x 30 =	
8	28 x 10 =		30	32 x 300 =	
9	28 x 100 =		31	81 x 2 =	
10	4 x 10 =		32	81 x 20 =	
11	4 x 2 =		33	13 x 3 =	
12	4 x 20 =		34	13 x 4 =	
13	14 x 10 =		35	13 x 40 =	
14	14 x 2 =		36	13 x 400 =	
15	14 x 20 =		37	72 x 30 =	
16	14 x 100 =		38	15 x 300 =	
17	14 x 200 =		39	81 x 600 =	
18	2 x 3 =		40	16 x 40 =	
19	22 x 3 =		41	65 x 30 =	
20	22 x 30 =		42	48 x 300 =	
21	22 x 300 =		43	89 x 60 =	
22	44 x 2 =		44	76 x 800 =	

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A

Correct _____

Multiply.

1	3 x 3 =		23	8 x 5 =	
2	0.3 x 3 =		24	0.8 x 5 =	
3	0.03 x 3 =		25	0.08 x 5 =	
4	3 x 2 =		26	0.06 x 5 =	
5	0.3 x 2 =		27	0.06 x 3 =	
6	0.03 x 2 =		28	0.6 x 5 =	
7	2 x 2 =		29	0.06 x 2 =	
8	0.2 x 2 =		30	0.06 x 7 =	
9	0.02 x 2 =		31	0.9 x 6 =	
10	5 x 3 =		32	0.06 x 9 =	
11	0.5 x 3 =		33	0.09 x 9 =	
12	0.05 x 3 =		34	0.8 x 8 =	
13	0.04 x 3 =		35	0.07 x 7 =	
14	0.4 x 3 =		36	0.6 x 6 =	
15	4 x 3 =		37	0.05 x 5 =	
16	5 x 5 =		38	0.6 x 8 =	
17	0.5 x 5 =		39	0.07 x 9 =	
18	0.05 x 5 =		40	0.8 x 3 =	
19	7 x 4 =		41	0.09 x 6 =	
20	0.7 x 4 =		42	0.5 x 7 =	
21	0.07 x 4 =		43	0.12 x 4 =	
22	0.9 x 4 =		44	0.12 x 9 =	

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Lesson 11: Multiply decimal fractions by multi-digit whole numbers through conversion to a whole number problem and reasoning about the placement of the decimal.

Date: 7/4/13

COMMON CORE

engage^ny

2.C.18

B

Improvement _____   # Correct _____

Multiply.

1	2 x 2 =		23	6 x 5 =	
2	0.2 x 2 =		24	0.6 x 5 =	
3	0.02 x 2 =		25	0.06 x 5 =	
4	4 x 2 =		26	0.08 x 5 =	
5	0.4 x 2 =		27	0.08 x 3 =	
6	0.04 x 2 =		28	0.8 x 5 =	
7	3 x 3 =		29	0.08 x 2 =	
8	0.3 x 3 =		30	0.08 x 7 =	
9	0.03 x 3 =		31	0.9 x 8 =	
10	4 x 3 =		32	0.08 x 9 =	
11	0.4 x 3 =		33	0.9 x 9 =	
12	0.04 x 3 =		34	0.08 x 8 =	
13	0.05 x 3 =		35	0.7 x 7 =	
14	0.5 x 3 =		36	0.06 x 6 =	
15	5 x 3 =		37	0.5 x 5 =	
16	4 x 4 =		38	0.06 x 8 =	
17	0.4 x 4 =		39	0.7 x 9 =	
18	0.04 x 4 =		40	0.08 x 3 =	
19	8 x 4 =		41	0.9 x 6 =	
20	0.8 x 4 =		42	0.05 x 7 =	
21	0.08 x 4 =		43	0.12 x 6 =	
22	0.6 x 4 =		44	0.12 x 8 =	

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A   # Correct _____

Write in feet and inches.

1	12 in =	ft in	23	17 in =	ft in
2	13 in =	ft in	24	24 in =	ft in
3	14 in =	ft in	25	28 in =	ft in
4	15 in =	ft in	26	36 in =	ft in
5	22 in =	ft in	27	45 in =	ft in
6	20 in =	ft in	28	48 in =	ft in
7	24 in =	ft in	29	59 in =	ft in
8	25 in =	ft in	30	60 in =	ft in
9	26 in =	ft in	31	64 in =	ft in
10	30 in =	ft in	32	68 in =	ft in
11	34 in =	ft in	33	71 in =	ft in
12	35 in =	ft in	34	73 in =	ft in
13	36 in =	ft in	35	72 in =	ft in
14	37 in =	ft in	36	80 in =	ft in
15	46 in =	ft in	37	84 in =	ft in
16	40 in =	ft in	38	90 in =	ft in
17	48 in =	ft in	39	96 in =	ft in
18	58 in =	ft in	40	100 in =	ft in
19	49 in =	ft in	41	108 in =	ft in
20	47 in =	ft in	42	117 in =	ft in
21	50 in =	ft in	43	104 in =	ft in
22	12 in =	ft in	44	93 in =	ft in

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B   Improvement _____   # Correct _____

Write in feet and inches.

1	120 in =	ft	in	23	16 in =	ft	in
2	12 in =	ft	in	24	24 in =	ft	in
3	13 in =	ft	in	25	29 in =	ft	in
4	14 in =	ft	in	26	36 in =	ft	in
5	20 in =	ft	in	27	42 in =	ft	in
6	22 in =	ft	in	28	48 in =	ft	in
7	24 in =	ft	in	29	59 in =	ft	in
8	25 in =	ft	in	30	60 in =	ft	in
9	26 in =	ft	in	31	63 in =	ft	in
10	34 in =	ft	in	32	67 in =	ft	in
11	30 in =	ft	in	33	70 in =	ft	in
12	35 in =	ft	in	34	73 in =	ft	in
13	36 in =	ft	in	35	72 in =	ft	in
14	46 in =	ft	in	36	77 in =	ft	in
15	37 in =	ft	in	37	84 in =	ft	in
16	40 in =	ft	in	38	89 in =	ft	in
17	48 in =	ft	in	39	96 in =	ft	in
18	49 in =	ft	in	40	99 in =	ft	in
19	58 in =	ft	in	41	108 in =	ft	in
20	47 in =	ft	in	42	115 in =	ft	in
21	50 in =	ft	in	43	103 in =	ft	in
22	12 in =	ft	in	44	95 in =	ft	in

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A
Correct _____

Divide.

1	$30 \div 10 =$	23	$480 \div 4 =$
2	$430 \div 10 =$	24	$480 \div 40 =$
3	$4,300 \div 10 =$	25	$6,300 \div 3 =$
4	$4,300 \div 100 =$	26	$6,300 \div 30 =$
5	$43,000 \div 100 =$	27	$6,300 \div 300 =$
6	$50 \div 10 =$	28	$8,400 \div 2 =$
7	$850 \div 10 =$	29	$8,400 \div 20 =$
8	$8,500 \div 10 =$	30	$8,400 \div 200 =$
9	$8,500 \div 100 =$	31	$96,000 \div 3 =$
10	$85,000 \div 100 =$	32	$96,000 \div 300 =$
11	$600 \div 10 =$	33	$96,000 \div 30 =$
12	$60 \div 3 =$	34	$900 \div 30 =$
13	$600 \div 30 =$	35	$1,200 \div 30 =$
14	$4,000 \div 100 =$	36	$1,290 \div 30 =$
15	$40 \div 2 =$	37	$1,800 \div 300 =$
16	$4,000 \div 200 =$	38	$8,000 \div 200 =$
17	$240 \div 10 =$	39	$12,000 \div 200 =$
18	$24 \div 2 =$	40	$12,800 \div 200 =$
19	$240 \div 20 =$	41	$2,240 \div 70 =$
20	$3,600 \div 100 =$	42	$18,400 \div 800 =$
21	$36 \div 3 =$	43	$21,600 \div 90 =$
22	$3,600 \div 300 =$	44	$25,200 \div 600 =$

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Lesson 16: Use *divide by 10* patterns for multi-digit whole number division.
Date: 7/4/13

engage^{ny} 2.E.8

B Improvement _____ # Correct _____

Divide.

1	20 ÷ 10 =	23	840 ÷ 4 =
2	420 ÷ 10 =	24	840 ÷ 40 =
3	4,200 ÷ 10 =	25	3,600 ÷ 3 =
4	4,200 ÷ 100 =	26	3,600 ÷ 30 =
5	42,000 ÷ 100 =	27	3,600 ÷ 300 =
6	40 ÷ 10 =	28	4,800 ÷ 2 =
7	840 ÷ 10 =	29	4,800 ÷ 20 =
8	8,400 ÷ 10 =	30	4,800 ÷ 200 =
9	8,400 ÷ 100 =	31	69,000 ÷ 3 =
10	84,000 ÷ 100 =	32	69,000 ÷ 300 =
11	900 ÷ 10 =	33	69,000 ÷ 30 =
12	90 ÷ 3 =	34	800 ÷ 40 =
13	900 ÷ 30 =	35	1,200 ÷ 40 =
14	6,000 ÷ 100 =	36	1,280 ÷ 40 =
15	60 ÷ 2 =	37	1,600 ÷ 400 =
16	6,000 ÷ 200 =	38	8,000 ÷ 200 =
17	240 ÷ 10 =	39	14,000 ÷ 200 =
18	24 ÷ 2 =	40	14,600 ÷ 200 =
19	240 ÷ 20 =	41	2,560 ÷ 80 =
20	6,300 ÷ 100 =	42	16,100 ÷ 700 =
21	63 ÷ 3 =	43	14,400 ÷ 60 =
22	6,300 ÷ 300 =	44	37,800 ÷ 900 =

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A

Divide.   # Correct _____

#	Problem	Answer	#	Problem	Answer
1	6 ÷ 10 =	.	23	25 ÷ 50 =	.
2	6 ÷ 20 =	.	24	2.5 ÷ 50 =	.
3	6 ÷ 60 =	.	25	4.5 ÷ 50 =	.
4	8 ÷ 10 =	.	26	4.5 ÷ 90 =	.
5	8 ÷ 40 =	.	27	0.45 ÷ 90 =	.
6	8 ÷ 20 =	.	28	0.45 ÷ 50 =	.
7	4 ÷ 10 =	.	29	0.24 ÷ 60 =	.
8	4 ÷ 20 =	.	30	0.63 ÷ 90 =	.
9	4 ÷ 40 =	.	31	0.48 ÷ 80 =	.
10	9 ÷ 3 =	.	32	0.49 ÷ 70 =	.
11	9 ÷ 30 =	.	33	6 ÷ 30 =	.
12	12 ÷ 3 =	.	34	14 ÷ 70 =	.
13	12 ÷ 30 =	.	35	72 ÷ 90 =	.
14	12 ÷ 40 =	.	36	6.4 ÷ 80 =	.
15	12 ÷ 60 =	.	37	0.48 ÷ 40 =	.
16	12 ÷ 20 =	.	38	0.36 ÷ 30 =	.
17	15 ÷ 3 =	.	39	0.55 ÷ 50 =	.
18	15 ÷ 30 =	.	40	1.36 ÷ 40 =	.
19	15 ÷ 50 =	.	41	2.04 ÷ 60 =	.
20	18 ÷ 30 =	.	42	4.48 ÷ 70 =	.
21	24 ÷ 30 =	.	43	6.16 ÷ 80 =	.
22	16 ÷ 40 =	.	44	5.22 ÷ 90 =	.

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Lesson 28:   Solve division word problems involving multi-digit division with group size unknown and the number of groups unknown.
Date: 7/4/13

engage^ny   2.H.8

B

Divide.

Improvement _____   # Correct _____

1	$4 \div 10 =$	.	23	$25 \div 50 =$	.
2	$4 \div 20 =$	.	24	$2.5 \div 50 =$	.
3	$4 \div 40 =$	.	25	$3.5 \div 50 =$	.
4	$8 \div 10 =$	.	26	$3.5 \div 70 =$	.
5	$8 \div 20 =$	.	27	$0.35 \div 70 =$	.
6	$8 \div 40 =$	.	28	$0.35 \div 50 =$	.
7	$9 \div 10 =$	.	29	$0.42 \div 60 =$	.
8	$9 \div 30 =$	.	30	$0.54 \div 90 =$	.
9	$9 \div 90 =$	.	31	$0.56 \div 80 =$	.
10	$6 \div 2 =$	.	32	$0.63 \div 70 =$	.
11	$6 \div 20 =$	.	33	$6 \div 30 =$	.
12	$12 \div 2 =$	.	34	$18 \div 90 =$	.
13	$12 \div 20 =$	.	35	$72 \div 80 =$	.
14	$12 \div 30 =$	.	36	$4.8 \div 80 =$	.
15	$12 \div 40 =$	.	37	$0.36 \div 30 =$	.
16	$12 \div 60 =$	.	38	$0.48 \div 40 =$	.
17	$15 \div 5 =$	.	39	$0.65 \div 50 =$	.
18	$15 \div 50 =$	.	40	$1.38 \div 30 =$	.
19	$15 \div 30 =$	.	41	$2.64 \div 60 =$	.
20	$21 \div 30 =$	.	42	$5.18 \div 70 =$	.
21	$27 \div 30 =$	.	43	$6.96 \div 80 =$	.
22	$36 \div 60 =$	.	44	$6.12 \div 90 =$	.

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Lesson 28:   Solve division word problems involving multi-digit division with
              group size unknown and the number of groups unknown.
Date: 7/4/13

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