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Applications of Equations with combine like terms/ Notes

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| Essential Questions? | Solve the following equations |
| 1.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_2. What can you observe from this problems of the day?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | J - 2 = 4 1 J - 2 = 43 3 |

 Vocabulary

Consecutive integers are integers that differ by 1

Perimeter of a shape is the sum of all the sides (each side gets counted only once)

In every square the sides are equal

In every rectangle opposite sides are equal

**Example 1)** Two consecutive integers have a sum of 9. Find the numbers

Plan Solve Check

**Example 2)** Three consecutive integers have a sum of 36 find the numbers

Plan Solve Check

**Applications of equations in Real-World **

Carrie, Harry and Mary were born in alphabetical order in consecutive years (one year after another). Their ages add up to 24. Define a variable: Let *c* represent Carrie’s age.

Plan Solve Check

 **Perimeter = the sum of all sides**

 **Example 1**. Referring to the square shown, find the value of *a* if the perimeter is 62 cm

Plan Solve Check

 *a*+14

4*a*+2

**Example 2** . Using shapes below, find the value of variable b for the triangle and the rectangle if you know that the perimeter of both shapes is 36

*b*+4

*b*+2

*b*+6

*b*+7

*b*+5

 **Applications of problems that deal with perimeter in Real-World **

Example 3 . Mrs.Paco’s backyard is a rectangular shape. The width is 2x and the length is 3x-10. The fence that goes around four sides is 1500 ft. long. Write an equation and solve it to find the width of Mrs.Paco’s backyard.

Plan Solve Check

 **Guided Practices**

Hugh weighs twice as much as Lou. Blue weighs 10 pounds more than Lou. The three dogs weigh a total of 130 lbs. Define a variable, write an equation and solve it to find Lou’s weight.

Plan Solve Check

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Applications of Equations with combine like terms/ Notes

1. Moe and Joe are sitting in theater seats side by side (consecutive seat numbers). Joes’ seat number plus Moe’s seat number is Moe’s favorite number, 11. Define a variable, write an equation and solve it to find the two seat numbers.

Plan Solve Check

1. Frank, Hank and William were born in consecutive years. Frank is the youngest. Their ages add up to 36. Find Frank’s age.

 Plan Solve Check

3. Find the value of the variable if the perimeter is 72.

2*c*+3

2*c*+2

2*c* +1

1.2*c*

1.2*c*

1.2*c*

1.2*c*

1.2*c*

1.2*c*

1.2*c*

1.2*c*

1.2*c*

1.2*c*

4. Find the value of the variable if the perimeter is 60.

5. The width of a piece of paper is ***w*** inches and the length is ***w* - 3** inches. If the perimeter is 39 inches then write an equation and solve it to find the width of the paper.

Plan Solve Check

6. Camille’s age, Alex’s age and Serge’s age are consecutive numbers. Camille is the youngest. Their ages add up to 81. Define a variable, write an equation and solve it to find Camille’s age.

 Plan Solve Check

**7. Gardening** A gardener is planning a rectangular garden area in a community garden. His garden will be next to an existing 12-ft fence. The gardener has a total of 44 ft of fencing to build the other three sides of his garden. How long will the garden be if the width is 12 ft? (VID)

**Enrichment activity** A carpenter is building a rectangular fence for a playground. One side of the playground is the wall of a building 70 ft wide. He plans to use 340 ft of fencing material. What is the length of the fence if the width of the playground is 70 ft?