

Solving Multi-Step Equations: Applications

7.A.4 Solve Multi-step equations by combining like terms, using the distributive property, or moving variables to one side of the equation.

The following equations contain at least one use of the distributive property, combining like terms, or moving variables to one side of the equation.

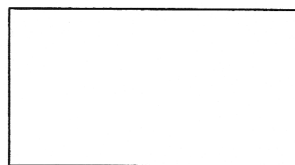
- 1) Two angles are complementary if they add up to 90° .

If $m\angle J = (3x + 2)^\circ$ and $m\angle K = (x + 8)^\circ$, find x and the measures of angles J and K.

- 2) The sum of the degrees of a polygon is 540° . If the formula for finding the number of degrees in a polygon is $(n - 2) \times 180^\circ$, where s is the number of sides, how many sides are in the polygon?

- 3) If the perimeter of the accompanying rectangle is 32, what is the value of x ?

$$2x - 1$$



$$3x + 2$$

4) The sum of three consecutive even numbers is 72. Set up an equation to solve and find the three numbers.

5) 5 packages have weights of $2(x - 1)$, $3x - 1$, $2x - 5$, $x + 1$, and $x + 2$. They are to be stored on a shelf that can only hold 31 pounds without breaking. What is the value of x ?

6) On a class trip, 4 adults accompanied a class of 28 students to the museum. The price of an adult ticket was four dollars less than three times the price of a student ticket. The amount spent for all the tickets was \$184.

Write an equation that can be used to find the ticket prices, where x is the price of a student ticket.