

Solve the proportion

Simplify

1.  $\frac{3}{2x+13} = \frac{2}{9}$

2.  $72 \div 12 * 2 + (6 - 3 * 4 + 9)$

Solve the equation. Use properties of equality to justify each step.

3.  $4(x + 7) - 16 = 44$

4.  $\frac{6x-20}{2} = 2$

5. The length of a marathon is 26.2 miles.

What is the equivalent length of a marathon in each of the following units of measurement.

a. Kilometers

b. Feet

c. Inches

6. Mrs. Pischke takes her algebra class on a field trip to the Field Museum in Chicago. Each student ticket cost \$12.50. The Cost of the charter bus was \$125 plus an additional \$0.35 per mile. The expression below describes the cost of the trip.

$$12.50s + 0.35m + 125$$

a. What is the meaning of the term  $12.50s$ ?

b. What is the meaning of the term  $0.35m$ ?

7. The coins that Alexis has are dimes and quarters. Her coins have a total value of \$5.80. She has a total of 40 coins. Which of the following systems of equations can be used to find the number of dimes,  $d$ , and the number of quarters,  $q$ , Alexis has? Explain your choice

a. 
$$\begin{cases} d + q = 5.80 \\ 40d + 40q = 5.80 \end{cases}$$

b. 
$$\begin{cases} d + q = 40 \\ 0.25d + 0.10q = 5.80 \end{cases}$$

c. 
$$\begin{cases} d + q = 5.80 \\ 0.10d + 0.25q = 40 \end{cases}$$

d. 
$$\begin{cases} d + q = 40 \\ 0.10d + 0.25q = 5.80 \end{cases}$$