

1. Solve.

a. $5.6 + x = 4.2$ $x = -1.4$

b. $y + 13.4 = 4.2$ $y = -9.2$

c. $9.6 \div z = -3.2$ $z = -3$

2. Solve (round to the nearest tenth if you have a decimal):

a. 24 is what percent of 60? $\frac{24}{60} = \frac{x}{100}$ $x = 40$

b. 20% of what number is 24? $\frac{20}{100} = \frac{24}{x}$ $x = 120$

c. 19% of 60 is what number? $\frac{19}{100} = \frac{x}{60}$ $x = 11.4$

d. What percent of 55 is 34? $\frac{34}{55} = \frac{x}{100}$ $x = 61.8$ ($61.\overline{81}$)

e. What is 60% of 42? $\frac{60}{100} = \frac{x}{42}$ $x = 25.2$

3. The price of gasoline rose from \$1.54 to \$3.85.

a. What is the percent increase?
 $\$3.85 - \$1.54 = \$2.31$ $\frac{\$2.31}{\$1.54} = 1.5 \times 100$ 150%
increase

b. If the price reverses from \$3.85 to \$1.54, what is the percent decrease?

$\$3.85 - \$1.54 = \$2.31$ $\frac{\$2.31}{\$3.85} = 0.6 \times 100$ 60%
decrease

4. Solve.

a. $\frac{8}{10} = \frac{x}{25}$

$x = 20$

b. $\frac{12}{9} = \frac{20}{y}$

$y = 15$

5. The cost of 14 gallons of gas is \$19.46. How much gas could you buy with \$8.70? Set up equivalent ratios to solve.

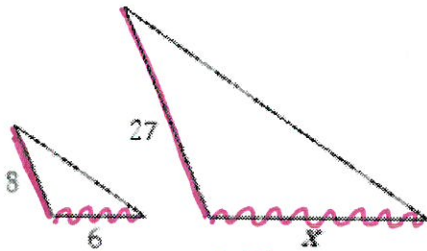
$$\frac{14 \text{ gallons}}{\$19.46} = \frac{x \text{ gallons}}{\$8.70}$$

$$x = 6.3 \text{ gallons}$$

(6.25899280...)

6. Solve for the missing side lengths in the similar shapes below.

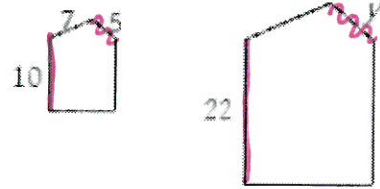
a.



$$\frac{8}{6} = \frac{27}{x}$$

$$x = 20.25$$

b.



$$\frac{10}{5} = \frac{22}{y}$$

$$y = 11$$

7. On a road map, 1 inch represents 30 miles. How many miles would 3.5 inches represent?

$$\frac{1 \text{ inch}}{30 \text{ miles}} = \frac{3.5 \text{ inches}}{x \text{ miles}}$$

$$x = 105 \text{ miles}$$

8. Jackie's car gets 18 miles per gallon of gasoline. How many gallons of gas would be required for Jackie's car to travel 108 miles? How do you know? Explain.

$$\frac{18 \text{ miles}}{1 \text{ gallon}} = \frac{108 \text{ miles}}{x \text{ gallons}}$$

$$x = 6 \text{ gallons}$$

9. Ceylon can swim 4 laps in 5 minutes. At that rate, how many minutes will it take her to swim 22 laps?

$$\frac{4 \text{ laps}}{5 \text{ minutes}} = \frac{22 \text{ laps}}{x \text{ minutes}}$$

$$x = 27.5 \text{ minutes}$$