

The second of two numbers is 4 times the
first. Their sum is 50. Find the numbers

$$4x + x = 50$$

$$\frac{5x}{5} = \frac{50}{5}$$

$$x = 10, 40$$

The sum of two numbers is 45. The first is 9 less than the second. Find the numbers.

$$x - 9 + x = 45$$

$$2x - 9 = 45$$

$$+ 9 \quad + 9$$

$$\frac{2x = 54}{2}$$

$$x = 27, 18$$

$$\begin{array}{r} 27 - 9 \\ 18 \end{array}$$

The larger of two numbers is 12 more than the smaller. Their sum is 84. Find the numbers

Together a necklace and a bracelet cost \$192. Find the price of each if the necklace costs 3 times as much as the bracelet.

$$3x + x = 192$$

$$b + 3b = 192$$

Grandpa's age is 6 years less than 6 times Junior's age. The sum of their ages is 78. Find each of their ages.

$$j + 6j - 6 = 78 \quad j = \text{junior}$$

$$7j - 6 = 78$$

$$\frac{7j}{7} = \frac{84}{7}$$

$$j = 12, 66$$

$$\frac{72 - 6}{66}$$

Find two numbers whose sum is 92, if the first is 4 more than 7 times the second.

$S = \text{second}$

$$\begin{aligned} S + 7S + 4 &= 92 \\ 8S + 4 &= 92 \\ \begin{array}{r} -4 \quad -4 \\ \hline 8S = 88 \end{array} & \quad \begin{array}{r} 92 \\ -11 \\ \hline 81 \end{array} \\ \frac{8}{8} \quad \frac{8}{8} & \\ S = 11, 81 & \end{aligned}$$

$$\cancel{2} \cdot \frac{\cancel{2}}{\cancel{3}} \left(\frac{1}{2}x + 5 \right) = \frac{\cancel{14}}{\cancel{3}} \cdot \frac{\cancel{2}}{\cancel{2}}$$

$$\frac{1}{2}x + 5 = 7$$
$$\quad \quad -5 \quad -5$$

$$2 \cdot \frac{1}{2}x = 2 \cdot 2$$

$$x = 4$$