

ADDITION AND SUBTRACTION

Write an equation for each situation. Then, solve the equation for the missing value.

Example 1: Michelle withdrew \$120 from her bank account. She now has \$3345 in her account. How much money was in her account before she made the withdrawal?

x = amt before
withdrawal

$$\begin{array}{r} x - 120 = 3345 \\ + 120 \quad + 120 \\ \hline x = 3465 \end{array}$$

\$ 3465

Try it! Max lost 23 pounds while on a diet. He now weighs 184 pounds. How much did he weigh in the beginning?

x = Max's initial
weight

$$\begin{array}{r} x - 23 = 184 \\ + 23 \quad + 23 \\ \hline x = 207 \end{array}$$

207 pounds

Example 2: Jennifer exercised for 3 more hours than Rachel last month. Jennifer exercised for 15 hours. How many hours did Rachel exercise?

x = # hours Rachel
exercised

$$\begin{array}{r} x + 3 = 15 \\ - 3 \quad - 3 \\ \hline x = 12 \end{array}$$

12 hours

Try it! Mars takes 322 more hours to orbit the sun than Earth. If Mars takes 687 days to orbit the sun, how many days does it take Earth to orbit the sun?

x = days it takes
Earth to orbit
the sun

$$\begin{array}{r} x + 322 = 687 \\ - 322 \quad - 322 \\ \hline x = 365 \end{array}$$

365 days

MULTIPLICATION AND DIVISION

Write an equation for each situation. Then, solve the equation for the missing value.

Example 3: John threw a surprise birthday party for his friend. Food, drinks, and a DJ cost \$480 for a group of 32 people. How much did it cost per person?

$x =$ cost per person

$$\frac{32x}{32} = \frac{480}{32}$$

$\boxed{\$15}$

$$x = 15$$

what weekly pay results in savings of

Try it! Ben is saving $\frac{1}{5}$ of his weekly pay to buy a car. How many weeks would it take him to save \$61.50?

$x =$ weekly pay

$$5 \cdot \frac{1}{5}x = 61.50 \cdot 5$$

$\boxed{\$307.50}$

$$x = 307.50$$

Example 4: Jamie went out to dinner with 5 of her friends. They decided to split the bill evenly. Each person paid \$12. What was the total bill?

* 6 people *

$x =$ total bill

$$6 \cdot \frac{x}{6} = 12 \cdot 6$$

$\boxed{\$72}$

$$x = 72$$

Try it! Tyler and 7 of his friends went bowling together. They split the bill evenly. If each person paid \$8, what was the total bill?

* 8 people *

$x =$ total bill

$$8 \cdot \frac{x}{8} = 8 \cdot 8$$

$\boxed{\$64}$

$$x = 64$$