

Lesson 3

Unknown numbers in addition and subtraction

Problem Solving

Tad picked up a number cube. His thumb and forefinger covered opposite faces. He counted the dots on the other four faces. How many dots did he count?

Mental Math

Example

Find the value of m :

$$\begin{array}{r} 12 \\ + m \\ \hline 31 \end{array}$$

Example

$$36 + 17 + 5 + n = 64$$

Solution

$$\begin{array}{r} 36 + 17 + 5 + n = 64 \\ \hline 58 + n = 64 \end{array}$$

$$64 - 58 = 6 \quad \text{So } n \text{ is } \mathbf{6}.$$

Example

Example

Find the value of w :

$$\begin{array}{r} w \\ - 16 \\ \hline 24 \end{array}$$

Example

Find the value of w :

$$\begin{array}{r} w \\ - 16 \\ \hline 24 \end{array}$$

Use 40 in place of w .

$$\begin{array}{r} 1 \\ 16 \\ + 24 \\ \hline 40 \end{array}$$
$$\begin{array}{r} 3 \\ 40 \\ - 16 \\ \hline 24 \end{array} \text{ check}$$

Example

Example

$$236 - y = 152$$

Example

$$236 - y = 152$$

$$\begin{array}{r} 1\ 1 \\ \cancel{2}36 \\ - 152 \\ \hline 84 \end{array}$$

Equations

Statements such as $12 + m = 31$ are equations. An **equation** is a mathematical sentence that uses the symbol $=$ to show that two quantities are equal. In algebra we refer to a missing number in an equation as an **unknown**. When asked to find the unknown in the exercises that follow, look for the number represented by the letter that makes the equation true.

Review

Homework

- Practice Set and Written Practice
- Due Friday