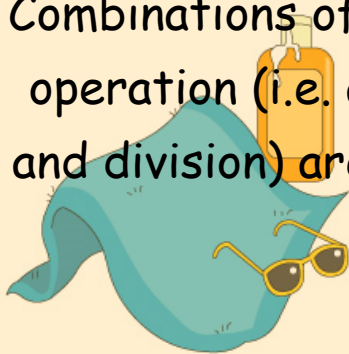


1.5 Evaluate Addition & Subtraction Expressions

A **VARIABLE** is a letter or symbol used to represent an unknown quantity.

Variables are usually lower case letters.

Combinations of variables, numbers, and at least one operation (i.e. addition, subtraction, multiplication, and division) are called **ALGEBRAIC EXPRESSIONS**.



Use these steps to evaluate an algebraic expression:

1. Replace the variable with a given number.

2. Compute to find the value of the expression.



Example: Evaluate the expression for the given number.

1.) $w - 3.5$ when $w = 100$

$$100 - 3.5$$

$$\begin{array}{r} 0 \cancel{\times} 100 \cancel{0} \\ - 3.5 \\ \hline \end{array}$$

$$\begin{array}{r} 100.0 \\ - 3.5 \\ \hline 96.5 \end{array}$$

2.) $300 - t$ when $t = 250$

$$300 - 250$$

$$\begin{array}{r} 2 \cancel{3} 00 \\ - 250 \\ \hline \end{array}$$

$$\begin{array}{r} 300 \\ - 250 \\ \hline 50 \end{array}$$

Example: First write an algebraic expression. Then evaluate the expression for the given number.

3.) 10.34 more than n

when $n = 9$

$$10.34 + n$$

$$10.34 + 9.00$$

$$\begin{array}{r} 10.34 \\ + 9.00 \\ \hline 19.34 \end{array}$$

4.) p minus 14

when $p = 100$

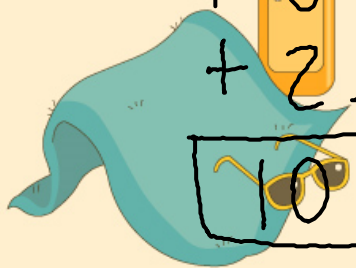
$$\begin{array}{r} p \\ 100 \\ - 14 \\ \hline 86 \end{array}$$

$$\begin{array}{r} 0 \cancel{\times} 100 \cancel{0} \\ - 14 \\ \hline 86 \end{array}$$

Example: Find the value of each algebraic expression when $c = 0.75$ and $d = 2.06$.

5.) $8 + c + d$

$$8 + 0.75 + 2.06$$



$$\begin{array}{r} 8.00 \\ + 0.75 \\ + 2.06 \\ \hline 10.81 \end{array}$$

6.) $35 - c - d$

$$35 - 0.75 - 2.06$$

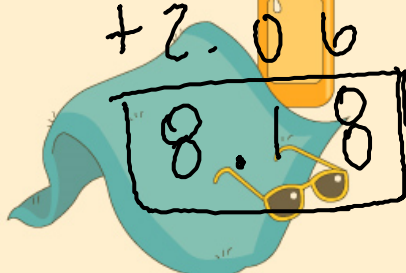
$$\begin{array}{r} 35.00 \\ - 0.75 \\ \hline 34.25 \\ - 2.06 \\ \hline 32.19 \end{array}$$

$$\boxed{32.19}$$

Example: Find the value of each algebraic expression when $c = 0.75$ and $d = 2.06$.

7.) $c + 5.37 + d$

$$0.75 + 5.37 + 2.06$$



$$\begin{array}{r} 0.75 \\ + 5.37 \\ + 2.06 \\ \hline 8.18 \end{array}$$

8.) $5 + c - d$

$$5 + 0.75 - 2.06$$

$$\begin{array}{r} 5.00 \\ + 0.75 \\ \hline 5.75 \\ - 2.06 \\ \hline 3.69 \end{array}$$

$$\boxed{3.69}$$

Example: Let y = the number of home runs Maddy hit last season. Brianna hit 6 more home runs than Maddy. Write an expression that shows how many home runs Brianna hit. Then find how many home runs Brianna hit if y equals 8.

$$6 + y$$

$$6 + 8 = 14 \text{ homeruns}$$



Example: Rachel collects 19 more cans than Elizabeth. Elizabeth collects 38 more cans than Eva. If Eva collects m cans, what expression shows how many cans Rachel collects? Evaluate the expression when m equals 87.

