

1-2
Variables and Expressions Day 2

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In algebra letters known as *variables* represent unknown amounts.

You need to be able to read *algebraic expressions*.

$$3(2) \text{ -----} \rightarrow 3 \cdot 2$$

$$5x \text{ -----} \rightarrow 5 \cdot x$$

$$4 \cdot 7a \text{ -----} \rightarrow 4 \cdot 7 \cdot a$$

$$\frac{x}{10z} \text{ -----} \rightarrow x \div (10 \cdot z)$$

$$a\left(\frac{b}{3}\right) \text{ -----} \rightarrow a \cdot (b \div 3)$$

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$$x + 4$$

$$x = 5$$

We can substitute into the equation to solve for x.

$$\begin{array}{c}
 x + 4 \\
 \downarrow \\
 5 + 4 \\
 \textcircled{9}
 \end{array}$$

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Ex. 1 Evaluate: $\underline{a - b + 7}$; $\underline{a = 15}$ and $\underline{b = 9}$

$$\begin{array}{c}
 15 - 9 + 7 \\
 \textcircled{13}
 \end{array}$$

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Ex. 2 Evaluate:

$a = 15$ and $b = 9$

$$\begin{array}{c}
 \left(\frac{ab}{5}\right) \\
 \frac{15 \cdot 9}{5} = 27
 \end{array}$$

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Ex. 3 Evaluate:

$x = 5$ and $y = 17$

$$\begin{array}{c}
 3x + 4y \\
 3 \cdot 5 + 4 \cdot 17 \\
 \checkmark \quad \checkmark \\
 15 + 68 \\
 \checkmark \\
 83
 \end{array}$$

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Ex. 4 Evaluate:

a = 15 and b = 9

$$\left(\frac{a+b \cdot 2}{3}\right)$$

$$\left(\frac{15+9 \cdot 2}{3}\right)$$

$$\frac{15+18}{3} = \frac{33}{3} = 11$$

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Ex. 5 Evaluate:

m = 2 and n = 4

$$\left(\frac{m^3}{2n}\right) = \frac{2^3}{2 \cdot 4}$$

$$\frac{8}{8} = 1$$

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Ex. 6 Evaluate:

a = 12, b = 9, c = 4

$$c^2(2b - a)$$

$$4^2(2 \cdot 9 - 12)$$

$$4^2(18 - 12)$$

$$4^2(6)$$

16 · 6
96

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Ex. 7 Evaluate:

a = 12, b = 9, c = 4

$$\left(\frac{2c^3 - ab}{4}\right)$$

$$\frac{2 \cdot 4^3 - 12 \cdot 9}{4}$$

$$\frac{2 \cdot 64 - 108}{4}$$

$$\frac{128 - 108}{4}$$

$$\frac{20}{4} = 5$$

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Ex. 8 Evaluate xy

if x = 3 and y = 5

Ex. 9 Evaluate m + n ÷ 6

if m = 12 and n = 18

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Ex. 10 Evaluate $1,221 \div x$
if $x = 37$

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Ex. 11 Evaluate $4m + 3$,
if $m = 5$

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Ex. 12 Evaluate $18a - 9b$
if $a = 12$ and $b = 15$

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Ex. 13 Evaluate $3ab - c$
if $a = 4$, $b = 2$, and $c = 5$

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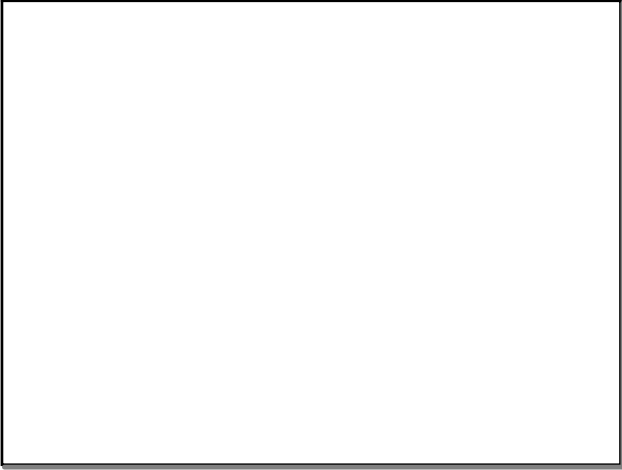
Ex. 14 Evaluate: $\frac{rst}{3}$
if $r = 9$, $s = 2$, and $t = 4$

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Homework: Page 14 (25-29 and 33-37 odds)

Heads Up.....Quiz Monday!!!

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