

Substituting Variables

The Language of Algebra	
<p>Algebra is a type of maths that uses variables to represent numbers. In this unit, you will learn the language of algebra and how to substitute variables into algebraic expressions.</p>	
Variables	<p>Variables represent numbers or quantities. The value they represent can <i>vary</i>.</p> <p>EXAMPLE: $x = 8$</p>
Expressions	<p>Expressions are like number sentences with variables, numbers and mathematical symbols (\times, \div, $+$, $-$ and $=$)</p> <p>EXAMPLE: $2x + 1$</p>
Evaluate	<p>Evaluating an expression in algebra is to substitute (replace) variables with numbers to find an answer.</p> <p>EXAMPLE: Evaluate $2x + 1$ if $x = 2$ $(2 \times 2) + 1 = 4 + 1 = 5$ The answer is 5.</p>

Instructions: Evaluate the algebraic expressions below.

1	<p>Evaluate $6x + 3y$ if $x = 4, y = 3$</p>
2	<p>Evaluate $-8t - 5s$ if $s = 2, t = 2$</p>



3

Evaluate
 $-4r + 3q$
if $q = 4, r = -3$

4

Evaluate
 $3k - 2(2 + j)$
if $j = 6, k = 7$

5

Evaluate
 $3(4 + u) - v$
if $u = -1, v = 2$

6

Evaluate
 $a^2 - 12b$
if $a = 5, b = -2$

7

Evaluate
 $6(4 - b) + c$
if $b = 5, c = 7$

8

Evaluate
 $3m^2 - 8n$
if $m = 3, n = -4$



9

Evaluate
 $10(2 - ab)$
if $a = 4, b = -3$

10

Evaluate
 $\frac{4d - 3e}{-1} + 2$
if $d = 5, e = 6$

11

Evaluate
 $\frac{12l - 5k}{-2} + 4$
if $k = -4, l = 4$

12

Evaluate
 $h^2 - 8(g - 3)$
if $g = 7, h = -10$

13

Evaluate
 $n^2 - 3m - 2n$
if $m = 9, n = 4$

14

Evaluate
 $2(1 - q) + \frac{3q + 2r}{2}$
if $q = 6, r = -2$

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Instructions: Evaluate the algebraic expressions below.

1	<p>Evaluate $7h + 3g$ if $g = -3, h = 5$</p>
2	<p>Evaluate $6(4 - u) - 2t$ if $t = -1, u = 8$</p>



3

Evaluate
 $c^2 + 7b - 3$
if $b = 4, c = 2$

4

Evaluate
 $\frac{3 + d^2}{2} - 3c$
if $c = 6, d = -5$

5

Evaluate
 $v^2 + 5(u - 1)$
if $u = -1, v = 6$

6

Evaluate
 $8(2 - g) - 3f$
if $f = 9, g = -2$

7

Evaluate
 $(-2cd)^2$
if $c = -3, d = -2$

8

Evaluate
 $9y^2 - 2z^2$
if $y = -2, z = -3$



9

Evaluate
 $y^2 - 8(y + x)$
if $x = 7, y = -10$

10

Evaluate
 $-\left(\frac{q^2 - 7r}{5}\right)$
if $q = -4, r = 3$

11

Evaluate
 $9j - 2\left(\frac{jk - 4k}{3}\right)$
if $j = 5, k = 6$

12

Evaluate
 $2(28 - ab) + 2b$
if $a = 7, b = 8$

13

Evaluate
 $q^2 + 3\left(\frac{5q - 4p}{7}\right)$
if $p = -3, q = -8$

14

Evaluate
 $-\left(\frac{(gh)^2 - 14g}{2}\right)$
if $g = 2, h = 6$