

Evaluating Expressions

Find the number you get for each expression when you substitute 4 for x .

$x + 5$ $4 + 5$ 9	$x + 3$	$x + 10$	$x - 2$	$x - 6$	$x - 4$
$3x$ $3(4)$ 12	$5x$	$9x$	$-3x$	$-5x$	$1x$
$3x + 5$ $3(4) + 5$ $12 + 5$ 17	$2x + 3$	$8x + 4$	$3x - 2$	$5x - 10$	$2x - 10$
$4(x + 2)$ $4(4 + 2)$ $4(6)$ 24	$5(x + 3)$	$3(x + 1)$	$7(x - 1)$	$5(x - 2)$	$3(x - 7)$
$x(x - 2)$ $4(4 - 2)$ $4(2)$ 8	$x(x + 5)$	$x(x - 7)$	$x^2 - 2x$ $4^2 - 2(4)$ $16 - 8$ 8	$x^2 + 5x$	$x^2 - 7x$
$-x + 2$ $-(4) + 2$ -2	$-x + 3$	$-x + 4$	$-x + 5$	$-x - 5$	$-x - 4$

Ma 8

SUBSTITUTION

Name _____

aka _____

PRACTICE

$x = 3$	$y = -5$	$z = -4$
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Ex $2x - 3y + 5z$

Ex $(x+y)(2-z)$

① $5y + 6z$

② $3xy - 2z$

③ $-2xz$

④ $(5+x)(y-2)$

⑤ $2y - (4x+3)$

⑥ $5yz + x$

$$\text{Ex } x^2 - 4z$$

$$y^2 + 3(x-z)$$

$$\textcircled{7} x^2 + z^2$$

$$\textcircled{8} 2x^2 - 4z + 3y$$

$$\textcircled{9} (x^2 + 2)(y - z)$$

$$\textcircled{10} 5z - 3yz$$

$$\textcircled{11} 2(x - y) + z^2$$

$$\textcircled{12} 3y^2 - x^2$$

$$\textcircled{13} 4y - (2x + 3)$$

$$\textcircled{14} -4y - (x - z)^2$$

$$\textcircled{15} (x + y)^2$$

$$\textcircled{16} (x + y + z)^2$$

$$\textcircled{17} (2x - 3y)^2$$

$$\textcircled{18} z^2 + 3y$$

EVALUATE

for $x=3$ $y=-2$ $z=-5$

$$4x + 3y$$

$$xyz$$

$$2(z-x)$$

$$(y-z)^2$$

$$x^2 + y^2$$

$$5x - 4y$$

$$(5+x)(8-x)$$

$$\frac{4xy}{x+x}$$

$$3xz + 1$$

$$\frac{6z}{xy}$$

$$(3+z)(z-2)$$

$$6z - 2y + x^2$$

#2 EVALUATE for $x=3$ $y=-2$ $z=6$.

$$4x + 3y$$

$$xyz$$

$$2(z-x)$$

$$(y-z)^2$$

$$x^2 + y^2$$

$$5x - 4y$$

$$(5+x)(8-x)$$

$$\frac{4xy}{x+x}$$

$$3xz + 1$$

$$\frac{6z}{xy}$$

$$(3+z)(z-2)$$

$$6z - 2y + x^2$$

#3 EVALUATE

for $x=8$ $y=+2$ $z=-3$

$$4x + 3y$$

$$xyz$$

$$2(z-x)$$

$$(y-z)^2$$

$$x^2 + y^2$$

$$5x - 4y$$

$$(5+x)(8-x)$$

$$\frac{4xy}{x+x}$$

$$3xz + 1$$

$$\frac{6z}{xy}$$

$$(3+z)(z-2)$$

$$6z - 2y + x^2$$

#4 EVALUATE = for $x = -1$ $y = -2$ $z = -7$

$$4x + 3y$$

$$xyz$$

$$2(z - x)$$

$$(y - z)^2$$

$$x^2 + y^2$$

$$5x - 4y$$

$$(5 + x)(8 - x)$$

$$\frac{4xy}{x+x}$$

$$3xz + 1$$

$$\frac{6z}{xy}$$

$$(3 + z)(z - 2)$$

$$6z - 2y + x^2$$

Substitution

Substitute and simplify.

$$a = 3, b = -9, c = 5$$

1. $a^2 + b^3 =$

6. $(b + c)^2 =$

2. $(a + b)^2 =$

7. $b^2 + c^2 =$

3. $a + b - c =$

8. $a^3 - (b + c)^2 =$

4. $(c - a)^2 =$

9. $-4b + (a + c)^2 =$

5. $2a - b - 3c =$

10. $abc =$

Substitute and simplify.

$$a = -6, b = -3, c = 4$$

1. $3a - 4b =$

6. $(a + b)^2 =$

2. $7c + b^3 =$

7. $c^2 - ab =$

3. $a^2 - b^2 =$

8. $2c + 3a - 4b =$

4. $(a - b)^2 =$

9. $a^2 - (b + c)^3 =$

5. $a^2 + b^2 =$

10. $(a + b + c)^2 =$