

Unit 5 Intro To Polynomials

5.2A Substitution & Translating English to Algebra

Substitution – replace variables with given values and then evaluate

BEOMAS!

Ex. Evaluate each expression for the given variable values:

a) $3x + y$ if $x = -2$ and $y = 4$

$$= 3(-2) + (4) \quad \text{*BRACKET the substitutions}$$

$$= -6 + 4$$

$$= \boxed{-2}$$

b) $-2ab - (a + b)$ if $a = 3$ and $b = -1$

$$= -2(3)(-1) - ((3) + (-1))$$

$$= 6 - 2$$

$$= \boxed{4}$$

c) $\frac{p-q}{2pq}$ if $p = 3$ and $q = -5$

$$= \frac{(3) + (15)}{2(3)(-5)}$$

$$= \frac{18}{-30}$$

$$= \boxed{-\frac{3}{5}}$$

Translating English to Algebra – see keyword list on back

Ex. Write an algebraic expression for each statement (let x be the number):

a) Five more than double a number.

$$\boxed{\begin{array}{c} 5 + 2x \\ \text{OR} \\ 2x + 5 \end{array}}$$

b) Three less than five times a number.

$$\boxed{5x - 3}$$

c) Three decreased by five times a number.

$$\boxed{3 - 5x}$$

Ex. Tickets for a play cost \$8 for adults and \$3 for children. Write an expression representing the total money collected from ticket sales.

Let a = adult cost
 c = child cost

$$\boxed{8a + 3c}$$

$\frac{x}{x}$

Translating English to Math - Key Words

Addition	<u>increased</u> by <u>more than</u> <u>combined</u> , together <u>total of</u> <u>sum</u> added to and
Subtraction <u>**order matters**</u>	<u>decreased</u> by minus, <u>less</u> <u>difference</u> between/of less than <u>fewer than</u> <u>reduced</u> by
Multiplication	<u>of</u> (ex. $\frac{2}{3}$ of a number) times multiplied by product of twice, doubled (x2), tripled (x3), etc.
Division	<u>per</u> a out of <u>ratio of</u> <u>quotient of</u> percent (divide by 100)
<u>Equals</u>	is are was were will be gives yields sold for