INTRODUCTION TO ALGEBRAIC EXPRESSIONS

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To evaluate an expression we replace the variable(s) with its value(s). It is recommended to use parenthesis wherever it is needed (in many cases). Then proceed to perform the calculations according to the order of operations.

Example: Evaluate.

a) Evaluate 5c, for c = 8 = 5(8) Replace c by 8 $= 5 \cdot 8$ = 40b) Evaluate $5x^2 - 2x$, for x = 3 $= 5(3)^2 - 2(3)$ Replace x by 3 = 5(9) - 2(3) = 45 - 6 = 39c) Evaluate $\frac{2xy + x^2}{4 + y}$, for x = 3, y = -2 $= \frac{2(3)(-2) + (3)^2}{4 + (-2)}$ Replace x by 3 and y by -2 $= \frac{-12 + 9}{4 - 2}$ $= \frac{-3}{2}$

EXERCISE:

Evaluate the following.

- (1) $\frac{3y-x^2}{2+x}$, for x = -1, y = 2 (2) $3x \div 6x^2$, for x = 2
- (3) $-m^2 5m$, for m = -7 (4) $(75 \div x^2) 7(x 7)$, for x = -5

TRANSLATING	WORD PHRASES		
	ADDITION Added to Sum of More than Increased by Plus	SUBTRACTION Subtracted from Difference of Decreased by Minus Less than	
	MULTIPLICATION Multiplied by Times Twice Product of Of	DIVISION Divided by Divided into Quotient of Ratio of Per	
Example: Transla a) 90 minus wh 90 - x = 45	te each problem to an equa nat number is 45?	tion. Do not solve. b) When 15 is multiplic the result is 135. 15x = 135	ed by a number,
Example: Transla a) Twice the so 2(x + y)	te each phrase to an expres um of two numbers	sion. b) Half the product of $\frac{1}{2} \cdot x \cdot y$	two numbers

EXERCISE: Translate each problem to an equation. Do not solve.

(5) Three less than twice a number is seven. (6) Five more than a number is six.

EXERCISE: Translate each phrase to an expression.(7) The quotient of a number and eight.(8) The difference of twice a number and one

Answers:

- 1.) 5 2.) 1/4 3.) **-**14 4.) 87 5.) 2x - 3 = 76.) x + 5 = 67.) $\frac{x}{8}$ 8.) 2x - 1