GSE Algebra	1 Unit 1 – Relationships Among Quantities	Notes
Name:	Date:	
	Interpret Language in Math Expressions	
Definitions:		
Vocabulary	Definition	Examples
Algebraic Expression	math express. containing the letters or combo (+/-)	5×+2
Variable	Letter	n
Term	Separated by t/- H, Letters	5x2
Like Terms	terms you can combine (same variable w/ same Expo	5x + 3x rent)
Coefficient	# in PRONT of letter	5×
Exponent	Power raised	52
Base	# that is multiplied when using an exponent	$X = 5^2$
Constant	# w/o variable (plain#)	
Order of Operations	PEMDAS	
	p t i d b 4-	-2.6

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GSE Algebra

Unit 1 – Relationships Among Quantities

Notes

Translating Expressions

	Addition	Subtraction	Multiplication	Division	Exponents
X	Sum	Difference	Of 🦰	Quotient	Power
	Increased by	Decreased by	Product	Ratio of	Squared
	More than	Minus	Times	Each	Cubed
	Combined	Less	Multiplied by	Fraction of	
	Together	Less than 🗡	Double, Triple	Out of	
	Total of	Fewer than	Twice	Per	
	Added to	How many more	As much	Divided by	
	Gained	Left	Each	Split	
	Raised	Use Parenthesis: The quantity of			
	Plus				

Practice: Write the expression for each verbal description:

1. the difference of 10 and 5

2. The quotient of 14 and 7

4. x increased by 6

7. twice q

5. The sum of q and 8

10)9 more than twice k

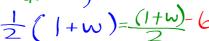
$$20+7=27$$
 A
11. The sum of a number and

3. y decreased by 17

6. 6 squared

9. The product of 9 and x

$$2 - (3 + P)$$



15) Five times a number increased by 5 is the same as 3 times the same number decreased by 7.

$$5x+5=3x-7$$

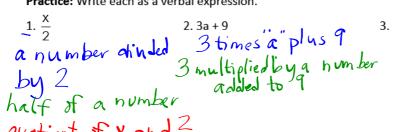
GSE Algebra

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16. Four times a number plus 10 minus two times the same number is 6.

Practice: Write each as a verbal expression.



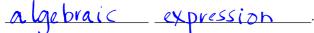
3.19 - 3

4.5n

quotient of x and 2

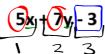
Algebraic Expressions

An expression containing variables (letters), numbers, and operation symbols is called an



Vary

In an algebraic expression, there are four different parts: coefficients, variables, constants, and terms. For example:



Variables are the letters in an expression.



Coefficients are the numbers in front of the variables.

Constants are the "plain numbers."



Terms are separated by a + or - sign

and can be numbers and/or variables 5x, 7y, -3

Complete the table below.

Expression	How Many Terms?	List Variables	List Constants	List Coefficients
2x + 5	2	×	5	2
13	1		13	
6m = 9n, + s = 4,	4	m,n,S	-4	6,-9,1
\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	3	X	-1	7, 1

3

GSE Algebra Unit 1 – Relationships Among Quantities Practice. Combine Like terms. Then identify the number of terms.

1. -3p + 6p

2. b - 3 + 6 - 2b



3. 8m + 1n - 3 + 10

5. -6k + 7k

Classifying Algebraic Expressions/Polynomials

Algebraic Expressions are typically written in Standard , which means the terms are arranged in decreasing order from the largest exponent to the smallest exponent. The is the largest exponent of the variable in the expression.

Rewrite each algebraic expression in standard form. Then identify the degree of the expression:

Degree:

Degree:

Notes

Algebraic Expressions are classified by DEGREE and NUMBER OF TERMS:

"FIRST NAME"

LAST NAME"

LAST NAME

"LAST NAME"

Last variety of terms - separated by type

25x°-25

Degree | Name | Example | # of Terms | Name | Example |

1 | Linear | 69x - 69x | 2 | binonomial | 5x + 7 | 37 |

2 | quadratic | 4a | 3 | trinomial | 3x²+5x+6, 37 |

3 | cubic | 6x³ | 4+ polynomial | 0x5+2x³+5x+6 | 3x² |

4 | polynomial | 0x5+2x³+5x+6 | 3x²+5x+6 | 3x²

Algebraic Expression	Degree	# of Terms	Classification
8x	1		linear monomial
₽ -4,	2	2	quadratic binomial
[10]	Ô		Constant monomial
$-24+3x(-x^2)$ $-3x^2-24$	2	3	quadratic trinomial
5x ² (-12)(8) 5x ³ (-14)	3	2	cubic binomial
7x-9x+1 $2x$	1	2	linear binomial
$\begin{array}{c} 4x^{2} - 5x^{3} = 4 + 5x - 1 \\ -5x^{3} + 4x^{2} + 5x - 5 \end{array}$	3	4	Cubic Pohynomial
-2x+3-1x ² +4x+7x ² 6x+3		2	linear binomial