

Unit 1 Day 3 Algebraic Expressions Notes

	Example	Mathematical Phrase
Addition	$2 + n$	Two <u>plus</u> a number. Key: sum, add, combine, Total,
Subtraction	$3 - g$ $x - 4$	Three <u>minus</u> a number $g$ . Four <u>less than</u> a number $x$ . Key: takeaway, difference
Multiplication	$5n$	Five <u>times</u> a number: Key: product, by
Division	$7 \div b$	Seven <u>divided by</u> a number The <u>quotient</u> of Seven and a number.
Fraction	$\frac{100}{x}$ $\frac{a}{4}$	One Hundred <u>divided by</u> a number The <u>fraction of</u> a number and four. Key: over
Exponential	$x^2$ $\sqrt{k} = k^{\frac{1}{2}}$	A number to the 2nd power. Key: squared, cubed, root
Grouping (Parentheses)	$2(r + 3)$ $4(8 - x)$	Two <u>times the sum</u> of a number and three Four <u>times the difference of</u> eight and a number Key: Quantity.

Write the following verbal statements as an algebraic expression.

1. A number  $n$  added to 2

$$n + 2$$

2. 4 times a number  $p$

~~$$4 \times p$$~~  

$$4 \cdot p \text{ or } 4p$$

3. 7 more than 3 times a number  $b$

$$7 + 3b$$

4. 5 less than a number  $x$

~~$$5 - x$$~~  

$$x - 5$$

5. 3 less than the sum of a number  $t$  and 5

$$(t + 5) - 3$$

6. The quotient of a number  $c$  and -2

$$c \div -2 \text{ or } \frac{c}{-2}$$

Write the following algebraic expressions as a verbal statement.

7.  $3x+5$  Three times a number plus five

8.  $\frac{d}{5} \div 2$  A number  $d$  over five divided by two.

9.  $6(r+2)$  The quantity of a number and two times six. Six times the sum of a number and two.

Classroom Coding:

Variable	Meaning
B	The number of <b>B</b> oys in the classroom
G	The number of <b>G</b> irls in the classroom
P	The number of <b>P</b> encils each student has
L	The cost of a <b>L</b> unch for each student (in dollars)
S	The cost of a <b>S</b> nack for each student (in dollars)
M	The amount of time a student spends in <b>M</b> ath class each day (in minutes)
H	The amount of time a student spends on math <b>H</b> omework each day (in minutes)

What, if anything, does each of the following algebraic expressions represent? (Give the summary phrase, or say "no meaning").

10.  $B+G$   
All the students.

11.  $GP$   
Total number of pencils for the ladies.

12.  $BM+BH$   
time spent on math.

13.  $LS$   
"no meaning" (better if  $L+S$ )

14.  $G(L+S)$   
Total girls paid for Lunch & Snack.

15.  $L+S+M+H$   
"no meaning"

Write an algebraic expression for each of the phrases below.

16. The total number of pencils for all the students in the class.  
 $(B+G)P = P(B+G) = BP+GP$

17. The cost of lunch for all the students in the class  
 $L(B+G)$  or  $LB+LG$ .

18. The total amount of time that all the students in the class spend on Math each day (both in class and on homework)  
 $(m+H)(B+G)$

19. Make up one other meaningful expressions using the list of variables above, and give its summary phrase.