

Activity 1-26: Algebraic Expressions and Variables

Name: \_\_\_\_\_

Evaluate each expression if  $r = 6$  and  $s = 8$ .

1.	$15 - s$		2.	$s - r$		3.	$s \div 2$	
4.	$sr$		5.	$4s$		6.	$s + r + 16$	

Evaluate each expression if  $j = 2$ ,  $k = 7$ , and  $m = 9$ .

7.	$2m - 5j$		8.	$3m + j$		9.	$42 \div k + m$	
10.	$j + m - k$		11.	$2j + k - m$		12.	$jm - k$	

Evaluate each expression if  $x = 5$ ,  $y = 4$ , and  $z = 3$ .

13.	$x + z$		14.	$y + 3 - z$		15.	$x - x + 4$	
16.	$xy - 2$		17.	$yz + 10$		18.	$xz + 4$	

For all problems 25-45, use the tornado method and show all work on a separate sheet of paper.

Evaluate each expression if  $a = 8$ ,  $b = 4$ , and  $c = 2$ .

19.	$\frac{a}{b} + 5$	20.	$3bc - 7$	21.	$\frac{b}{c} + a$
22.	$\frac{2a}{4} - b$	23.	$3(b + a) - c$	24.	$2b - 3c$
25.	$\frac{2b}{c}$	26.	$\frac{6(a + c)}{b}$	27.	$b(b + a) - b$

Evaluate each expression if  $a = 12$ ,  $b = 3$ , and  $c = 4$ ,  $m = 9$ ,  $n = 3$ .

28.	$\frac{m}{n} + 6$	29.	$10mn$	30.	$\frac{a}{c} - b$
31.	$\frac{3n}{m} + 4$	32.	$3(n + n) - m$	33.	$4c - 3b$
34.	$10 - \frac{2m}{n}$	35.	$\frac{3(b + c)}{(b + c)}$	36.	$b(c - b) + c$

Evaluate each algebraic expression for the given values of the variables.

37.	$(b^2 - c) \cdot d - 4$ , for $b = 6$ , $c = 4$ , and $d = 12$	
38.	$(a + b^2) \cdot c \div d$ , for $a = 7$ , $b = 2$ , $c = 6$ , and $d = 3$	
39.	$s^2 - 3 \cdot t \div v$ , for $s = 5$ , $t = 7$ , and $v = 3$	

Translate each phrase below into an algebraic expression. Write the correct letter next to each expression.

1.	3 times a number
2.	3 more than a number
3.	3 decreased by a number
4.	3 less than a number
5.	one third of a number
6.	8 more than 3 times a number
7.	8 less than 3 times a number

A	$x+3$
B	$3x-8$
C	$x-3$
D	$3x+8$
E	$3x$
F	$3-x$
G	$\frac{x}{3}$

8.	7 less than 4 times a number
9.	7 decreased by 4 times a number
10.	9 less than twice a number
11.	9 decreased by twice a number
12.	9 less than half a number
13.	7 times a number, increased by 4
14.	7 times a number, increased by 4 times the number

H	$7-4x$
I	$2x-9$
J	$7x+4$
K	$4x-7$
L	$7x+4x$
M	$9-2x$
N	$\frac{x}{2}-9$

15.	5 times a number, increased by 8
16.	5 times the sum of a number and 8
17.	5 more than 8 times a number
18.	8 times the sum of a number and 5
19.	twice the sum of 5 times a number and 8
20.	2 more than five-eighths of a number
21.	8 times the sum of twice a number and 5

O	$8(x+5)$
P	$8(2x+5)$
Q	$8x+5$
R	$2(5x+8)$
S	$5x+8$
T	$5(x+8)$
U	$\frac{5}{8}x+2$

22.	9 meters higher than altitude $x$
23.	15 meters per second slower than speed $x$
24.	15 degrees hotter than temperature $x$
25.	9 meters shorter than twice length $x$
26.	9 years older than twice age $x$
27.	\$9 cheaper than 4 times price $x$
28.	9 centimeters less than three-fourths of length $x$

V	$x+15$
W	$x+9$
X	$4x-9$
Y	$2x-9$
Z	$2x+9$
AA	$x-15$
BB	$\frac{3}{4}x-9$