Name _____ Date _____ Class _____

Cumulative Test 4A

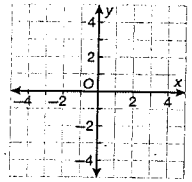
1. (17) Write "c increased by 5" as an algebraic expression.

Evaluate each expression in problems 2–3 for the given values of the variables.

2. (16) $(-x - y) - (x + y)$ for $x = 3$ and $y = 2$.

3. (16) $(ab) + (abc)$ for $a = -2$, $b = 2$, and $c = -3$.

4. (20) Graph the ordered pair (–2, –2) on the coordinate plane.



Simplify problems 5–10.

5. (18) $-3x - (-2x) + 4x$

6. (18) $2x^2 - 3y^2 - 4x^2 + 6y^2$

7. (15) $-3(x - 3)$

8. (11) $(-3)(-8)$

9. (10) $-2.86 + (-3.24) - 4.71 + 6.62$

10. (7) $3 + 2\left[(5 + 3)^2 - 6\right]$

11. (8) A falcon flies at a speed of 114,400 yards per hour. How fast does the falcon fly in miles per hour? (Hint: A mile is equal to 1760 yards.)

12. (19) Tell whether $x = 4$ is a solution for the equation $x + 4 = 9$.

13. (19) Solve $y - 3 = 10$.

14. (6) Determine whether the set of whole numbers is closed under subtraction. If the statement is false, give a counterexample.

15. (5) Find the sum $(-6) + (-5)$.

16. (13) Compare the expressions below. Use <, >, or =.

$\sqrt{16} + \sqrt{49} \bigcirc \sqrt{25} + \sqrt{36}$

17. (14) There are 1 blue, 9 red, and 2 yellow marbles in a bag. What is the probability of randomly choosing a red marble?

18. (17) Use words to write the algebraic expression $m - 9$ in two different ways.

19. (Inv. 1) If a softball player has 8 hits in 25 at-bats, what is the probability she will get a hit in the next at-bat? Express your answer as a decimal to the thousandths place.

20. (20) Complete the table for the equation $y = 2x + 4$.

x	y
–2	
0	
2	
$\frac{1}{2}$	

NAME: Alg Study G. 4 TEST: _____

SCORE: _____

1.

$C + 5$

2. $(-x-y) - (x+y)$ $x=3$, $y=2$

$(-3-2) - (3+2)$

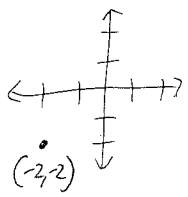
$(-5) - (5) = -10$

3. $ab + abc$ $a=-2$, $b=2$, $c=-3$

$(-2 \cdot 2) + (-2 \cdot 2 \cdot -3)$

$-4 + 12 = 8$

4.



5. $-3x - (-2x) + 4x$

$-3x + 2x + 4x$

$3x$

6. $2x^2 - 3y^2 - 4x^2 + 6y^2$

$-2x^2 - 3y^2 + 6y^2$

$-2x^2 + 3y^2$

7. $-3(x-3)$

$-3x + (-3 \cdot -3)$

$-3x + 9$

8. $(-3)(-8) = 24$

9. $-2.86 + (-3.24) - 4.71 + 6.62$

$-6.1 - 4.71 + 6.62$

$-10.81 + 6.62$

-4.19

10. $3 + 2[(5+3)^2 - 6]$

$3 + 2[8^2 - 6]$

$3 + 2[64 - 6]$

$3 + 2(58) = 119$

11. $\frac{114{,}400 \text{ yds}}{1 \text{ hr}} \cdot (\ ) = \frac{? \text{ miles}}{1 \text{ hr}}$

$\frac{114{,}400 \text{ yds}}{1 \text{ hr}} \cdot \frac{1 \text{ mi}}{1760 \text{ yds}} = \frac{114{,}400}{1760} =$ 65 mph

12. $x + 4 = 9$ $x = 4$??

$4 + 4 = 9$

$8 \neq 9$

False

13. $y - 13 = 10$

$+13 \quad +13$

$y = 13$

14. False, $5 - 11 = -6$

-6 isn't a whole #.

15. $-6 + -5 = -11$

16. $\sqrt{16} + \sqrt{49}$ ( ) $\sqrt{25} + \sqrt{36}$

$4 + 7$ $5 + 6$

11 $=$ 11

17. 1 blue, 9 red, 2 yellow, 12 total

$P(\text{red}) = \frac{9}{12} = \frac{3}{4}$ or 75%

18. m minus 9

9 less than m

19. $8 \div 25 = .32$

.320

20. $y = 2x + 4$

x	y
-2	0
0	4
2	8
$1\frac{1}{2}$	5

$2(-2) + 4 = -4 + 4 = 0$

$2(0) + 4 = 0 + 4 = 4$

$2(2) + 4 = 4 + 4 = 8$

$2(\frac{1}{2}) + 4 = 1 + 4 = 5$