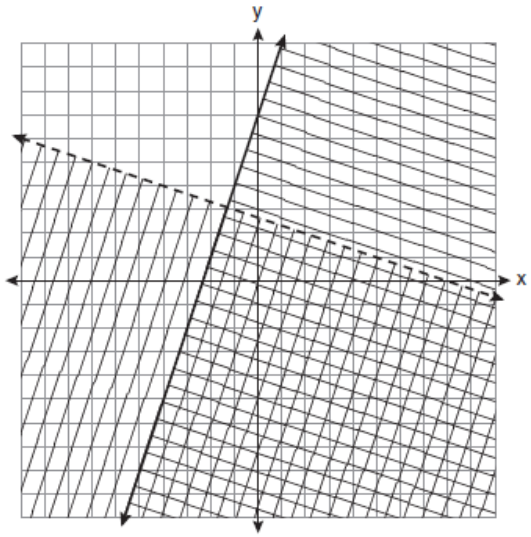
Name_____ Date _____

Algebra 1 Review Packet #2

1. Which ordered pair is in the solution set of the system of linear inequalities graphed below?



(1) $(1,-4)$ (2) $(-5,7)$ (3) $(5,3)$ (4) $(-7,-2)$

2. Using the substitution method, Ken solves the following system of equations algebraically.

$$2x - y = 5$$
$$3x + 2y = -3$$

Which equivalent equation could Ken use?

(1) $3x + 2(2x - 5) = -3$

(2) $3x + 2(5 - 2x) = -3$

(3) $3\left(y + \frac{5}{2}\right) + 2y = -3$

(4) $3\left(\frac{5}{2} - y\right) + 2y = -3$

3. Which ordered pair is in the solution set of the system of inequalities $y \leq 3x + 1$ and $x - y > 1$?

(1) $(-1,-2)$ (2) $(2,-1)$ (3) $(1,2)$ (4) $(-1,2)$

4. If $h(x) = \begin{cases} 4x, & x < -1 \\ 2, & -1 \le x \le 1 \\ x, & x > 1 \end{cases}$, find $h(-3)$.

(1) -3 (2) 2 (3) 12 (4) -12

5. Labor at the car repair shop can be represented by the function:

$$\text{Total charge for repairs} = \begin{cases} 150, & 0 < h \le 1 \\ 150 + 80(h-1), & h > 1 \end{cases}$$

If h represents the number of hours worked, what is the charge for a 3 hour car repair?

(1) \$150 (2) \$230 (3) \$310 (4) \$390

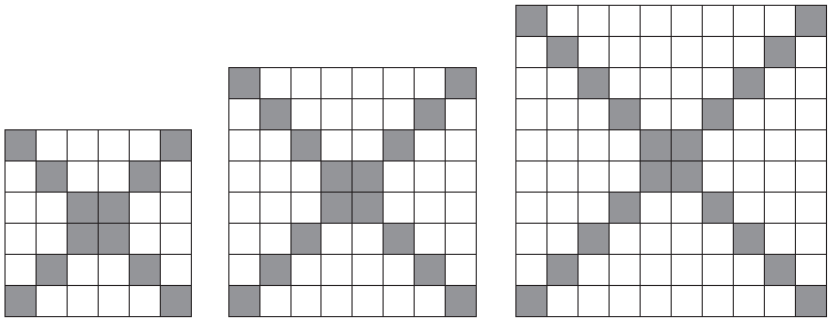
6. The value of the x-intercept for the graph of 5x + 4y = 40 is

(1) 10 (2) $\frac{5}{4}$ (3) $-\frac{5}{4}$ (4) 8

7. What is the range of $f(x) = |x + 2| - 4$

1) $0 \le y < \infty$ 2) $0 \le x < \infty$
3) $-4 \le y < \infty$ 4)) $-4 \le x < \infty$

8. The diagrams below represent the first three terms of a sequence.



Assuming the pattern continues, which formula determines a_n, the number of shaded squares in the nth term?

(1) $a_n = 4n + 12$ (2) $a_n = 4n + 8$ (3) $a_n = 4n + 4$ (4) $a_n = 4n + 2$

9. If a sequence is defined recursively by f(0) = 2 and f(n + 1) = -2f(n) + 3 for n ≥ 0, then f(2) is equal to:

(1) 1 (2) -11 (3) 5 (4) 17

10. Which property of equality is shown below?

If: $-19 - u = t$

Then: $\frac{-19 - u}{v} = \frac{t}{v}$

(1) addition property of equality (2) subtraction property of equality

(3) division property of equality (4) multiplication property of equality

11. Which property of equality is shown below?

If: $66 = b + -32$

Then: $66 + 70 = b + -32 + 70$

(1) addition property of equality (2) subtraction property of equality

(3) division property of equality (4) multiplication property of equality

12. Given $3x - ax + 4 \leq 12$, determine the <u>smallest integer</u> value of a when $x = 2$

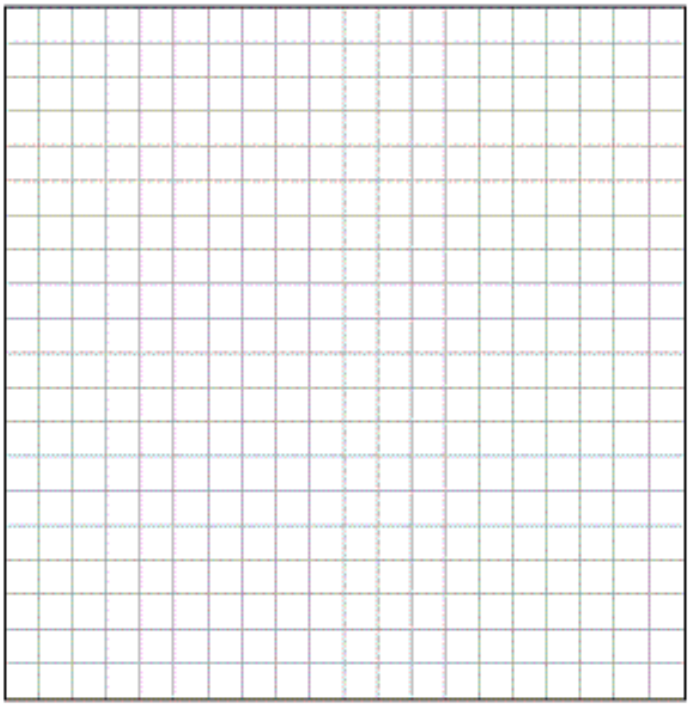
13. Given $h(x) = -2x + 7$, If $h(x) = 4$ find the value of x.

14. Given $f(x) = |x + 6| - 2$, evaluate $f(-8) + f(2)$

15. On the grid below, solve the system of equations graphically for x and y.

$$4x - 2y = 10$$

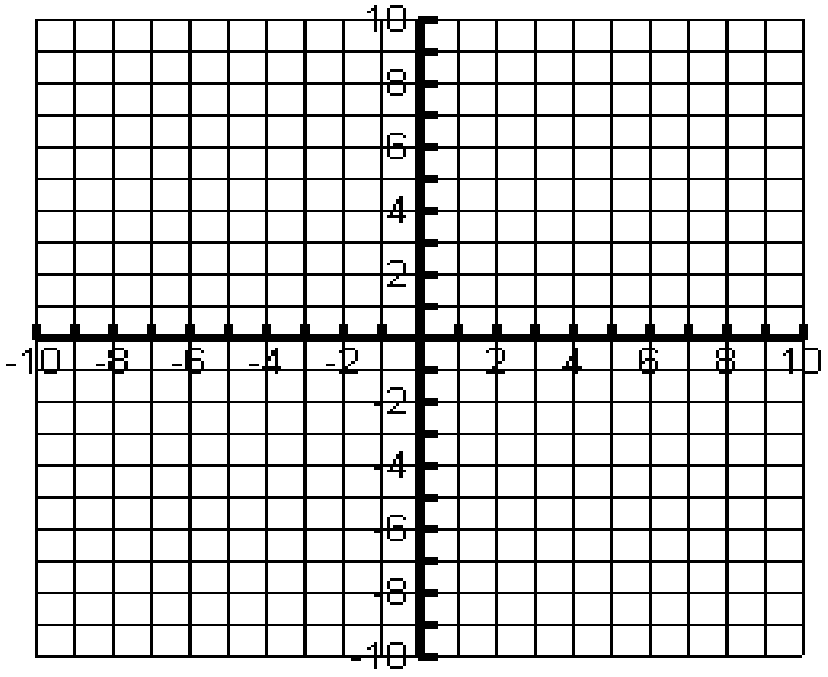
$$y = -2x - 1$$



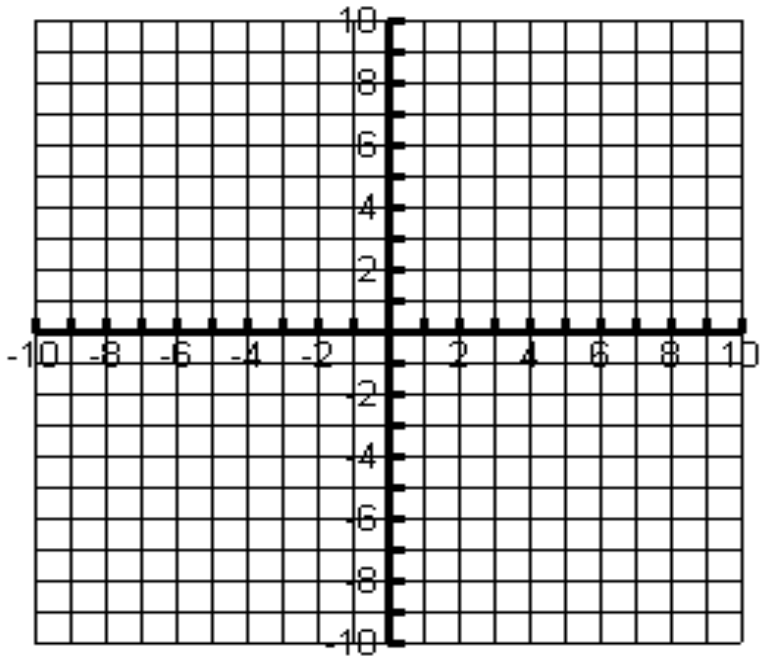
16. If $f(x) = |x - 1| - 3$ is translated up 3 units and left 4 units what is the resulting equation?

17. Graph the following piecewise defined function on the axes provided

$$f(x) = \begin{cases} 2x + 4 & , x \leq -1 \\ 6 - x & , x > -1 \end{cases}$$



18. On the set of axes below, graph $f(x) = 3|x|$



If $g(x) = f(x) - 3$, how is the graph of *f(x)* translated to form the graph of *g(x)* ?

If $h(x) = f(x - 1)$, how is the graph of *f(x)* translated to form the graph of *h(x)* ?

If $k(x) = -f(x)$, how is the graph of *f(x)* translated to form the graph of *k(x)* ?