Name: _____ Date: _____

Math 412- Ms. Castellano Review for Quiz #2-2

Show all work to receive full credit.

1. Alexandra purchases two doughnuts and three cookies at a doughnut shop and is charged $3.30. Briana purchases five doughnuts and two cookies at the same shop for $4.95. All the doughnuts have the same price and all the cookies have the same price. Find the cost of one doughnut and the cost of one cookie.

Let c = cookies ($)

Let d = doughnuts ($)

$-5(2d + 3c = 3.30)$

$2(5d + 2c = 4.95)$

$-10d - 15c = -16.5$

$10d + 4c = 9.9$

$-11c = -6.6$

$-11 \quad -11$

$c = 0.6$

$2(d) + 3(.6) = 3.30$

$2d = 1.5$

cookies = $0.60

doughnuts = $0.75

2. What is the solution for the system of equations $x - y = 2$ and $y = 2x - 4$?

$x - y = 2$

$y = 2x - 4$

$x - (2x - 4) = 2$

$x - 2x + 4 = 2$

$-x = -2$

$x = 2$

$y = 2(2) - 4$

$y = 0$

(2, 0)

3. Which pair of equations could *not* be used to solve the following equations for x and y?

$4x + 2y = 22$

$-2x + 2y = -8$

(1) $4x + 2y = 22$ ✓
$2x - 2y = 8$ ✓

(2) $4x + 2y = 22$ ✓
$-4x + 4y = -16$ ✓

(3) $12x + 6y = 66$ ✓
$6x - 6y = 24$ ✓

(4) $8x + 4y = 44$
$-8x + 8y = -8$

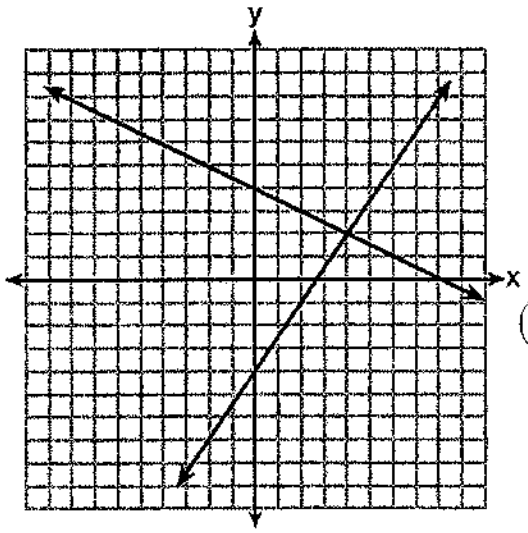
4. The sum of two numbers is 47, and their difference is 15. What is the larger number?

$x+y=47$
$x-y=15$
$2x=62$
$x=31$

$x+y=47$
$31+y=47$
$y=16$

31

5. A system of equations is graphed on the set of axes below.



The solution of this system is

(1) (0,4)
(2) (2,4)
(3) (4,2)
(4) (8,0)

6. Describe the transformation(s) of the parent function, $f(x)=x$, to the new function $g(x)=2f(x)-5$.

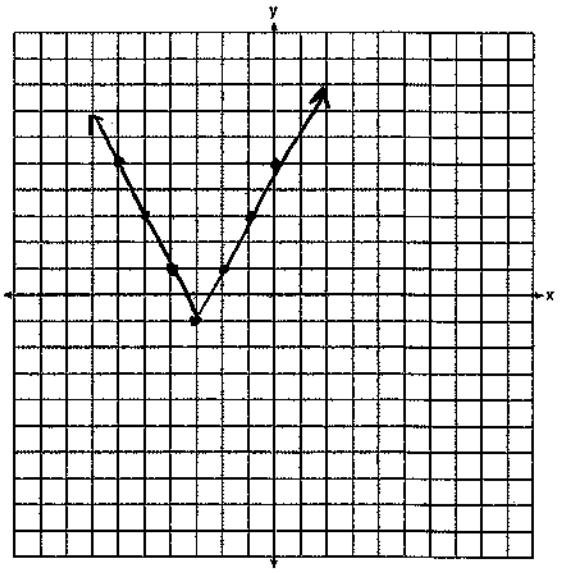
down 5 units
vertically stretched by a factor of 2

7. What is the equation of the line with a slope of -½ that passes through the point (6, -6)?

(1) $y=-2x-3$
(2) $y=\frac{1}{2}x-3$
(3) $y=-\frac{1}{2}x+3$
(4) $y=-\frac{1}{2}x-3$

$y=-\frac{1}{2}x+b$
$-6=-3+b$
$-3=b$

8. On the set of axes below, graph $y = 2|x + 3| - 1$.

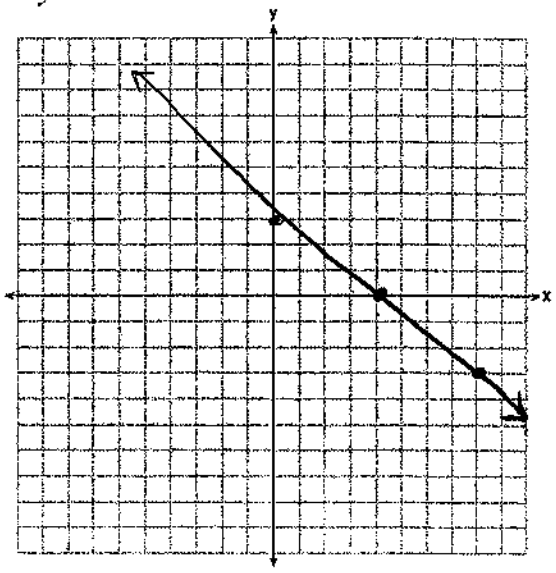


9. The equation of a given line is $3y - 2 = 6x + 4$. Which could be the equation of a line parallel to the given line that passes through the point (1, -5)?

(1) $y = \frac{1}{2}x - 3$
(2) $y = 2x - 7$
(3) $y + 5 = 2(x + 1)$
(4) $y = 2x + 7$

$3y = 6x + 6$
$y = 2x + 2$
$y = 2x + b$ ⟶ $b = -7$
$-5 = 2 + b$

10. On the set of axes below, draw the graph of the equation $y = -\frac{3}{4}x + 3$.



Is the point (3, 2) a solution to the equation? Explain your answer based on the graph drawn.

No, the point (3,2) does not lie on the line.

11. What is the x-intercept of $2x - 6y = 10$?

$2x - 6(0) = 10$
$2x = 10$
$x = 5$
(5,0)

12. Which is the equation of a line *not* parallel to $y = -4x - 6$?

$-4x-4=y$

(1) $4y + 6 = -16x - 10$
(2) $2y = 8x + 12$ $y = 4x + 6$
(3) $14 - y = 4x + 12$
(4) $2x + 3y - 4 = -10x + 5$

13. Solve the system of equations algebraically using elimination method and check your answer.

$x + y = 10$
$5x - y = 2$

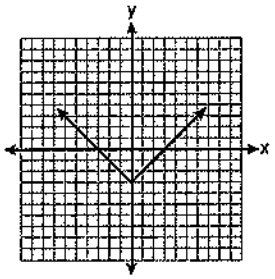
$6x = 12$
$x = 2$

$x + y = 10$
$y = 8$

Check:
$2 + 8 = 10$ ✓
$5(2) - 8 = 2$ ✓

14. Which equation is represented by the graph on the right?

(1) $y = x^2 - 3$
(2) $y = (x - 3)^2$
(3) $y = |x| - 3$
(4) $y = |x - 3|$

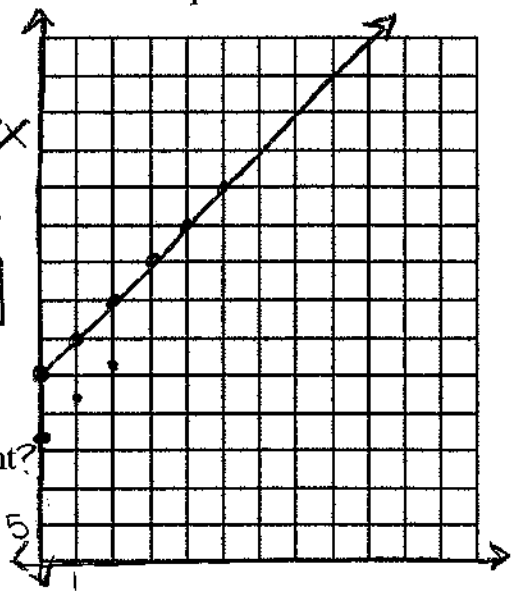


15. Monica and Max each want to buy a scooter. Monica has already saved \$25 and plans to save \$5 per week until she can buy the scooter. Max has \$16 and plans to save \$8 per week.

$y = 25 + 5x$
$y = 16 + 8x$

$25 + 5x = 16 + 8x$
$9 = 3x$
$3 = x$

$16 + 8(3) = 40$



In how many weeks will Monica and Max have the same amount?

3 weeks

How much will each person have saved?

\$40