

STAAR/EOC Practice for Pre-AP Algebra I HW #6

1. Some values for two linear equations are shown in the tables below.

Equation 1	
x	y
1	-1
-6	-15
4	5
7	11

Equation 2	
x	f(x)
4	5
-6	15
0	9
-2	11

What is the solution to the system of equations represented by the two tables?

- A. (-6,15)
- B. (5,4)
- C. (4,5)
- D. (-5,14)
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2. Jasmine wants to purchase a new guitar. The guitar costs \$1000. She has saved \$250 and plans on saving an additional \$50 each week. She determined that it would take her 15 weeks to save the \$1000. If the price of the guitar increases by 25%, how many additional weeks of savings will it take Jasmine to have enough money to buy the guitar at the new price?
- a. 20 weeks
- b. 5 weeks
- c. 15 weeks
- d. 25 weeks
3. Wendy has a total of 100 songs on her iPod. She has these songs categorized into two types of music. The number of her rap songs is 14 more than three times the number of her country songs. Which system of equations can be used to find how many rap songs, r , and country songs, c , Wendy has?
- a. $r+c=14$
 $r+3c=100$
- b. $r+c=100$
 $r+3c=14$
- c. $r+c=14$
 $14-3c=r$
- d. $r+c=100$
 $14+3c=r$
4. In the system of linear equations below, the second equation is a result of multiplying the first equation by 4.

$$x-3y=4$$

$$4x-12y=16$$

How many solutions does this system of equations have?

- a. Zero solutions
- b. One solution
- c. Three solutions
- d. Infinite solutions
- 5) Some students want to order shirts with their school logo. One company charges \$9.40 per shirt plus a setup fee of \$40. Another company charges \$8.15 per shirt plus a \$55 fee. For what number of shirts would the cost be the same?
- A. 6
- B. 12
- C. 76
- D. 152

6. Antonio repairs personal computers and smartphones. He charges a fixed rate of \$75 plus \$50 per hour for repair work. The average amount of time he spends on each repair is 4 hours. The table below shows some of the earnings Antonio has made doing repairs.

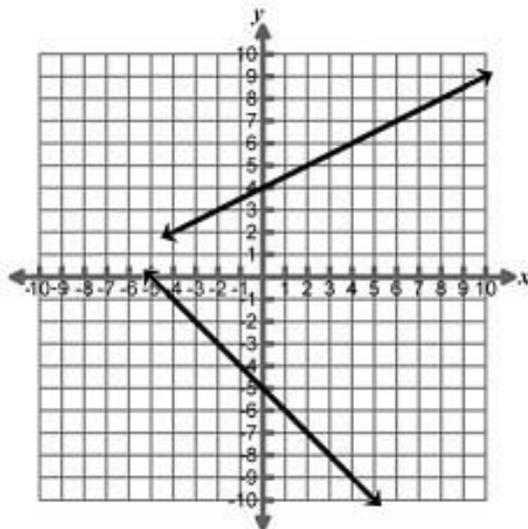
<i>Number of hours</i>	<i>Total earnings</i>
1	\$125
2	\$175
3	\$225

Antonio decides he wants to increase his total earnings by either charging \$10 more on his fixed fee or charging \$5 more per hour for labor. Which answer below describes the better way to accomplish the increase and gives a correct justification based on an average of 4 hours per repair?

- Antonio should increase his hourly rate because his average repair is 4 hours.
 - Antonio should increase his fixed fee because his average repair is 4 hours.
 - Antonio should increase his hourly rate because the total amount of his earnings for each repair will always be \$20 more than it is now.
 - Antonio should increase his fixed fee because the total amount of his earnings for each repair will always be \$10 more than it is now.
7. Diana will enclose her rectangular tomato garden with 42 feet of fencing material. She wants the length of her garden to be two times the width. What length will meet Diana's conditions?
- 28 feet
 - 21 feet
 - 14 feet
 - 7 feet

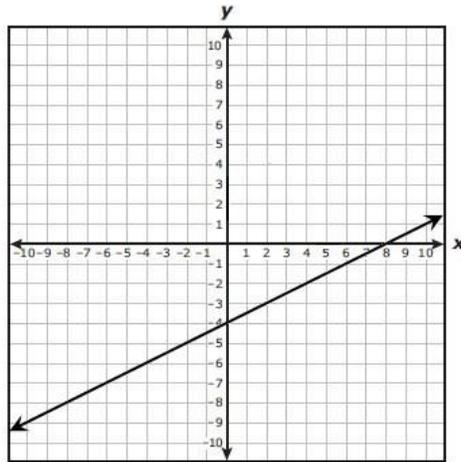
8) John was instructed to graph a system of linear equations. He was given the slope and y-intercept of both lines. Part of his graph is shown below. If John's graph met the criteria, which answer best describes the solution of the system of linear equations that John created?

- The solution for the system is $(-6, 1)$ because the equations of the lines are $y = x - 5$ and $y = 2x + 4$.
- The solution for the system is $(-6, -1)$ because the equations of the lines are $y = -x - 5$ and $y = 2x + 4$.
- The solution for the system is $(-6, 1)$ because the equations of the lines are $y = -x - 5$ and $y = \frac{1}{2}x + 4$.
- The solution for the system is $(-6, -1)$ because the equations of the lines are $y = -x - 5$ and $y = \frac{1}{2}x + 4$.



9. A certain video rental store rents video games for \$4.99 and DVDs for \$2.99. One day the store rented a total of 65 video games and DVDs. If the total rental income for this day was \$284.35, not including tax, which of the following statement is a reasonable conclusion?
- There were more video games than DVDs rented on this day.
 - There were more DVDs than video games rented on this day.
 - The total rental income for DVDs on this day was \$134.55, not including tax.
 - The total rental income for video games on this day was \$99.80, not including tax.

10. The graph of the equation $x-2y=8$ is given below.
Graph $3x+4y=4$ on the grid.



- What is the solution to this system of equations?
- (4,-2)
 - (-4,2)
 - (4,2)
 - (-4,-2)
11. What is the value of the x in the solution to the system of linear equations below?
- $$y=4x-17$$
- $$3x+y=4$$
- $x = -5$
 - $x = -3$
 - $x = 3$
 - $x = 5$
12. A high school band held a bake sale. The number of cupcakes sold was four more than twice the number of cookies sold. The band sold a total of 52 cupcakes and cookies. How many cupcakes were sold?
- A. 28 B. 16 C. 36 D. 24

13. Which is true for $\begin{cases} y - 2x = 4 \\ 2y = 4x + 5 \end{cases}$?

- A. The system has no solutions.
- B. The system has infinitely many solutions.
- C. The system has only one solution at (4,0).
- D. The system has one solution.

14. An electronics store needs to purchase new and used DVDs. New DVDs cost \$14.50 each and used DVDs cost \$8.25 each. If the store needs to purchase 30 DVDs and has \$310 to spend, what is the maximum number of each type of DVD that the store can purchase?

A. 9 new DVDs and 21 used DVDs

C. 20 new DVDs and 10 used DVDs

B. 12 new DVDs and 18 used DVDs

D. 10 new DVDs and 20 used DVDs