Name: Key Class: _____ Date: _____ ID: C

ALGEBRA 2 TEST CHP 3 Review

Multiple Choice
Identify the choice that best completes the statement or answers the question.

D 1. Simplify the following expression.
$2(x+y)-9(3x+y)+7(3x+y)$ → $2x+2y-27x-9y+21x+7y$

a. $-4x+18y$
b. $-4xy$
c. $-4x+2y$
d. $-4x$

$-9y+7y+2y = 0y$; $-27x+21x+2x = -4x$

D 2. What is the solution to the following system of equations?

$y=2x-8$
$y=3x-13$

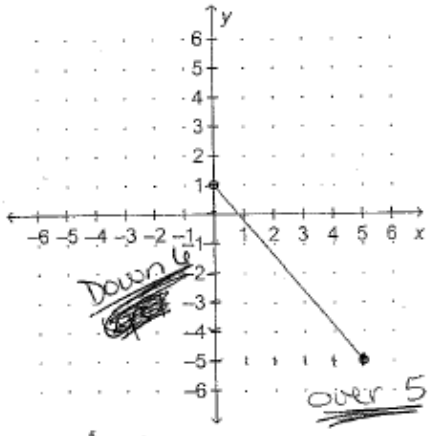
Solve by graphing or elimination or substitution

Substitution: $2x-8=3x-13$, $-2x+13=-2x+13$, $5=1x$. Plug into original to get y: $2(5)-8=2$, $(10)-8$

a. (5, −1)
b. (7, 2)
c. (2, 5)
d. (5, 2)

B 3. Which of the following equations represents a line that is parallel to the segment shown on the coordinate grid?

same slope



Rise / Run so $-\frac{6}{5}$

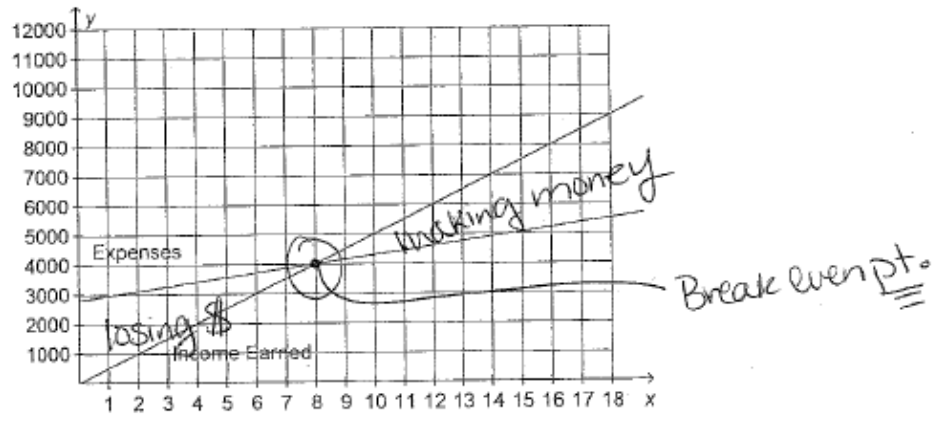
a. $y=\frac{5}{6}x-4$
b. $y=-\frac{6}{5}x-7$
c. $y=-\frac{3}{5}x+2$
d. $y=\frac{8}{5}x-3$

Multiple Choice Identzfil the choice that best completes the statement or answers the question.

arallapfi the segment shown on the coordinate grid’?

Name: _____ ID: C

C 4. It costs a small production company a fixed cost of $2,800 for props and costumes plus $150 for each performance to put on plays at area schools. For each performance, the company earns $500. Let x represent the number of performances and let y represent the amount of dollars of expenses or income. Then the two equations graphed below represent the expenses and income earned by the production company. How many performances must the company put on in order to break even?



a. 9
b. 11
number of performance
c. 8
d. 14

Q 4 4. it costs a smali production company a fixed cost of $2,800 for props and costumes pius $150 for

each performance to put on piays at area schools. For each performance, the company earns $500. Let X represent the number of performances and Eet y represent the amount of dollars of ertoenses or incofne. Then the two equations graphed below represent the expenses and income earned by the production company. How many performances must the company put on in order to break even’?

12000

'1 1000

10000

9000

8000

7000

6000

5000

4000

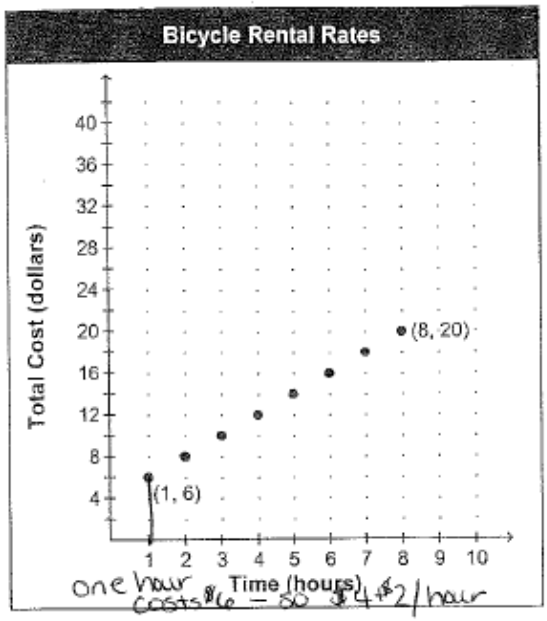
3000

2000

1000

Name: _____ ID: C

A 5. A bicycle rental company charges customers a deposit of $4.00 plus an hourly rate as shown in the graph. What is the slope of the line joining these points, and what does the slope represent?



a. The slope is 2. This represents the rental charge of $2.00 per hour.
b. The slope is 4. This represents the deposit of $4.00.
c. The slope is 4. This represents the rental charge of $4.00 per hour.
d. The slope is 2. This means that a customer used the bicycle for 2 hours.

EM:

Namei MM

What is the slope of the Eine joining these points, and what does the siope represent‘?

Total Cost (dollars)

N

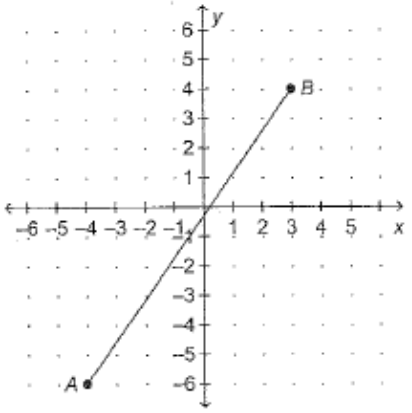
C)

®The slope is 2. This represents the rental charge of $2.00 per hour.

b. The stope is 4. This represents the deposit of $4.00. " c. The siope is 4. This represents the rental charge of $4.00 per hour. d. The siope is 2. This means that a customer used the bicycle for 2 hours.

Name: _____ ID: C

D 6. The line segment shown in the graph has a slope of $\frac{10}{7}$. What is the slope of the perpendicular bisector of $\overline{AB}$?



Slope is negative
Reciprocal
SO $-\frac{7}{10}$
neg + flip

a. $\frac{7}{10}$
b. $\frac{7}{5}$
c. $-\frac{10}{7}$
d. $-\frac{7}{10}$

D 7. What is the solution to the following system of equations?

$y = -4x - 11$
$y = -3x - 9$

a. (–2, –5)
b. (–3, –2)
c. (0, –3)
d. (–2, –3)

Remember they are written (x, y)

by graph, elimination or substitution

y =

y =

then graph
then 2nd trace
#5 intersect
ENTER 3 times

Name:

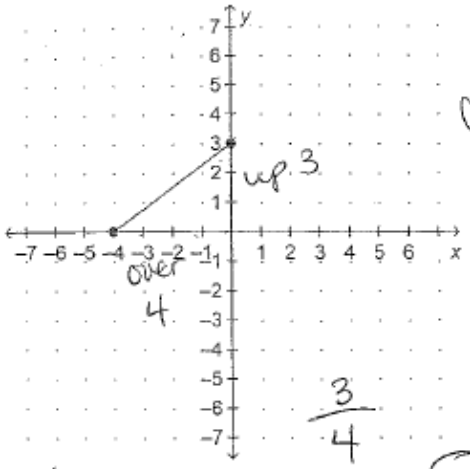
Q 6. The fine segment shown in the graph has a slope

bi-sector of /15*?

D 7. What is the solution to the foilowing system of equations?

Name: _____ ID: C

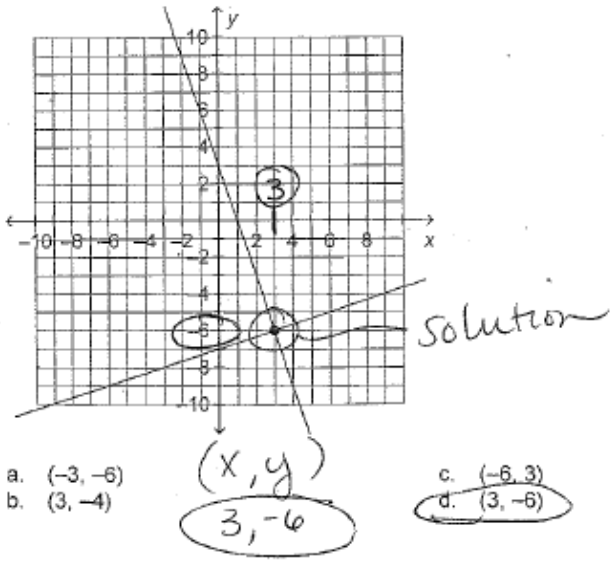
C 8. What is the slope of the line segment with an x-intercept of (–4, 0) and a y-intercept of (0, 3)?



Count $\frac{\text{Rise}}{\text{run}}$ OR $\frac{y_2 - y_1}{x_2 - x_1}$

a. $\frac{4}{3}$
b. $-\frac{3}{4}$
c. $\frac{3}{4}$
d. 1

D 9. What is the solution to the system of equations shown below?



a. (–3, –6)
b. (3, –4)
c. (–6, 3)
d. (3, –6)

$D\ A$

d.

a.

b.

ll 9. What is the solution to the system of equations shown below?

Name: _____ ID: C

Numeric Response

1. The table below shows values of x and y for the equation $-x^2 + y = 0$.

x	y
−2	4
−1	1
0	0
1	1
2	4

$+x^2 = +y$

$6^2 = y$

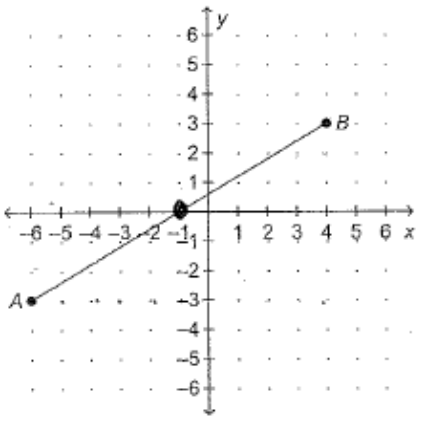
$36 = y$

What is the value of y when $x = 6$? = 36

Short Answer

1. $\overline{AB}$ has endpoints $A(-6, -3)$ and $B(4, 3)$ as shown in the graph. Calculate the slope of the perpendicular bisector of $\overline{AB}$ ~~and determine the point where the bisector intersects $\overline{AB}$. Show your work.~~

extra credit



$\frac{6}{10} = \frac{3}{5}$ so perpendicular (1)

$= \frac{-5}{3}$ for slope

Bisector find the midpt

$\frac{10}{2}, \frac{6}{2} = 5, 3$ over, up so mid pt (-1, 0) from an end ex. cr.

6

Name: D): C

Numeric Response

What is the value of y_when x :6?

Short Answer

Name: _____ ID: C

$x+x+y+y=182 = 2x+2y=182$

2. The perimeter of a rectangular field is 182 feet. The length of the field is 7 feet more than two times the width of the field. $y = 7 + 2x$

$x=28$ $y=63$

$y = 7+2x$

$2x+2y=182$

now solve by graph, subs. or elimination

Part A Write a system of two equations that could be used to find the length and width of the field. ~~Let x~~ represent the length of the field, and let y represent the width of the field.

Part B Solve the system of equations for x and y to determine the dimensions of the field.

3. What is the slope of the linear equation that has the values shown in the table? Show your work.

x	y
-4	15
-2	5
0	-5
2	-15
4	-25

Pick Any 2 points x+y

$\frac{15-^{-}15}{-4-2} = \frac{30}{-6} = -5$

4. Elroy bought x pounds of peanuts for $4.10 per pound and y pounds of cashews for $5.80 per pound at the store for a retirement party. The total bill was $23.90 for 5 pounds of nuts.

Part A Write a system of two equations that could be used to find the number of pounds of peanuts and the number of pounds of cashews bought. $4.10x+5.80y=23.90$

Part B Solve the system. How many pounds of each nut did Elroy buy? AND $x+y=5$

So: $2+x=5$ $-2 \quad -2$ $x=3$ $y=2$

2 pounds cashews, 3 pounds of peanuts

5. Solve the following system of equations by graphing. Show your work.

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

$y=x+3$ 3 put into y=

Sketch the graph

2nd trace

#5

ENTER (3 times)

$x=0$

$y=3$

Using elimination: ignore

#4) $4.10x+5.80y=23.90$

$-4.10(x+y=5)$

$-4.10x-4.10y=-20.50$

$1.7y=3.40$

$\frac{1.7}{1.7}$

$y=2$ plug in

0

~ w

Pa-rtA rite a system of two equations that could be used to find and wiéth of the field. my represent the length of the field, and let y represent the width of the field. art 5 Solve the system of equations for x and v to determine the dimensions

art 5 Solve the system of equations for x and y to determine the dimensions of the field.

4. Elroy bough

5. Soive the following system of equations by graphing. Show your work. hi