Algebra 2 Paper Packet - Quarter 1 Test
Week of October 5-7, 2020

Teacher (circle the name of your teacher): A. Amihan M. Joson

Name: _____ Date : _____Period: _____

**Directions**: Please complete the test before the end of Quarter 1. You can drop off at WRHS or during bus run.

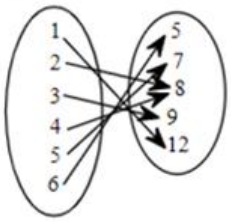
1. Question 1 has 3 parts.

Every year, a music hall of fame inducts legendary musicians and musical acts into its hall of fame. The table shows the number of inductees for each year. Complete **a** through **c** below.

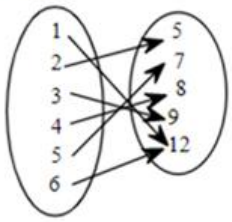
| Year | Number of Inductees | Year | Number of Inductees |
|---|---|---|---|
| 2001 | 12 | 2004 | 8 |
| 2002 | 8 | 2005 | 7 |
| 2003 | 9 | 2006 | 5 |

**a.** Represent the data using a mapping diagram. Let 1 represent 2001, 2 represent 2002, and so forth. Choose the correct mapping diagram below.

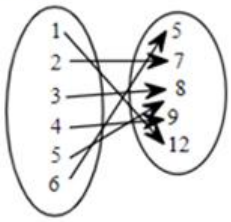
○ A.




○ B.




○ C.




**b.** Represent the data using ordered pairs. Choose the correct set of ordered pairs below.

A.{(1,6),(2,7),(3,8),(4,9),(5,8),(6,14)}

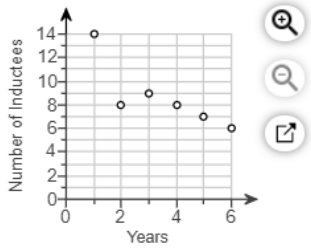
B.{(1,14),(2,8),(3,9),(4,8),(5,7),(6,6)}

C. .{(1,6),(2,8),(3,9),(4,8),(5,7),(6,14)}

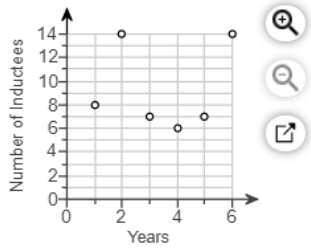
D. {(1,12),(2,8),(3,9),(4,8),(5,7),(6,5)}

**c.** Represent the data using a graph on the coordinate plane. Choose the correct graph below.

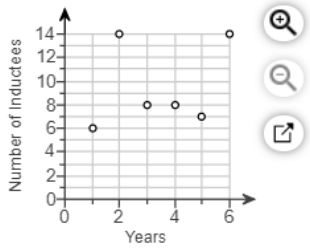
○ A.




○ B.




○ C.




○ **D. None of the above**

2.

List the domain and range of the relation.

{(7, − 8), (4,4), (0, − 8), (4,1) (7,8)}

The domain is { }. (Use a comma to separate answers as needed.)

*Write your answer here:*_____

3.

Determine whether the relation is a function.

H = {(9, − 5), (8, − 5), (7, − 5), (6, − 5), (5, − 5)}

Does the given relation represent a function?

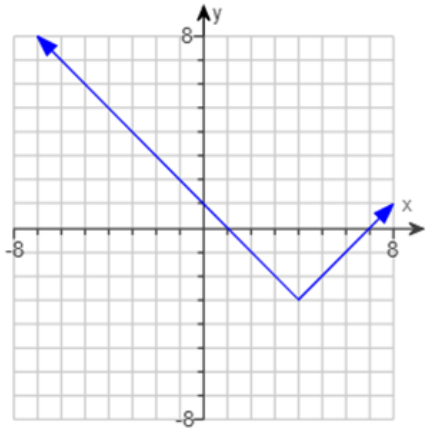
- ○ Yes
- ○ No

4.

Determine if the graph is a function.

Is this the graph of a function?

- ○ Yes
- ○ No




5. Show your work.

Given f(x) = 22x + 12, find f(5).

f(5) = ☐

6. Recycled CDs, Incoporated, offers a choide of 5 used CDs for $21, with each additional CD costing $5. (a) Write a cost function for purchasing 5 or more CDs. (b) What will the cost of buying 6 CDs be? Let x represent the number of CDs over 5. Write an expression using x as the variable.

C(x)=☐

7

Using the slope formula, find the slope of the line through the given points.

(3, − 8) and (6, − 8)

What is the slope of the line? Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

A. The slope of the line is ☐. Write an integer or a simplified fraction.,

B. The slope of the line is undefined.

8.

Write the equation of the line in slope-intercept form.

$m = \frac{1}{4}$, y-intercept (0,2)

The equation of the line in slope-intercept form is ☐.

9. Show your work.

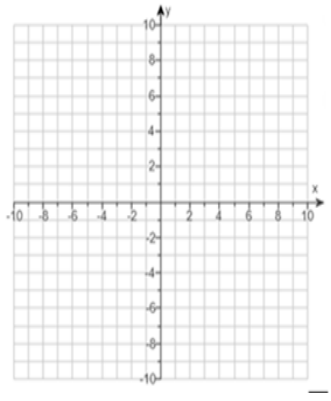
Write the equation in slope-intercept form. Then find the slope and y-intercept of the line.

$5x + 3y = 5$

The equation in slope-intercept form is $y =$ ☐.

10. Use a colored pencil to graph the equation.

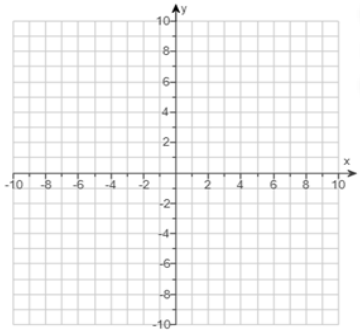
Use the slope-intercept form to graph the equation $y = 9x - 2$.



11. Use a colored pencil to graph the equation.

Plot the intercepts to graph the equation.

$2x - 8y = -8$



12. Show your work.

Find a point-slope equation of the line having the given slope and containing the given point.

$m = \frac{3}{4}$, (1,7)

What is an equation of the line?

In the equation below, type the slope and the coordinates of the point in the appropriate positions.

$y - \square = \square(x - \square)$

(Simplify your answer. If negative numbers occur in your answer, enclose them in parentheses.)

Use this space to solve problem #12.

13. Show your work.

Write in point-slope form an equation of the line through the pair of points.

(10,5) and (3,1)

What is an equation of the line in point-slope form?

- A. $y - 5 = -\frac{4}{7}(x - 10)$
- B. $y - 5 = \frac{4}{7}(x - 10)$
- C. $y = -\frac{4}{7}x - \frac{5}{7}$
- D. $x - 5 = \frac{4}{7}(y - 10)$

Use this space to solve problem # 13

14. Show your work.

Write an equation of the line in standard form with integer coefficients.

$y = \frac{1}{5}x - 3$

What is the equation of the line in standard form?

- A. $\frac{1}{5}x - y = 3$
- B. $-x + 5y = -15$
- C. $5x - y = 15$
- D. $5y - 15 = x$

Use this space to solve problem #14

15.

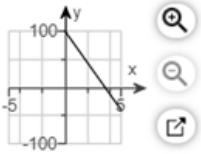
Write and graph an equation to represent the situation.

You put 18 gallons of gasoline (x) in your car. You know that this amount of gasoline will allow you to drive 504 miles (y).

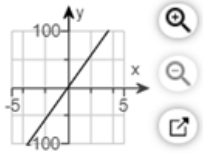
$y =$ ☐

Choose the correct graph below.

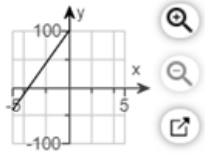
- A.



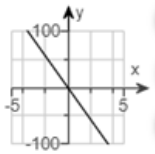

- B.




- C.




- D.




16. Show your work.

Find an equation of the line through (1,7) and parallel to $y = 4x - 3$.

$y =$ ☐