Name_____ Date_____

Math 8 Regents **Final Exam Review #4**

Final Exam – Thursday & Friday, June 14th & 15th

Directions: Select the choice that best answers each question.

1. Which of the following choices represent a pair of parallel lines?

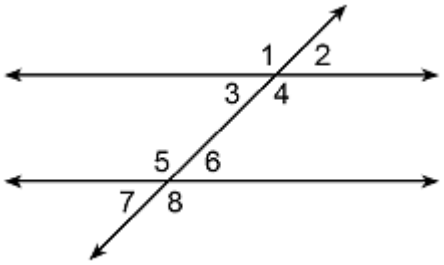
A $y = 4x - 1$
$y = 4x + 5$

B $y = \frac{4}{5}x - 1$
$y = -\frac{5}{4}x + 5$

C $y = 4x - 1$
$y = -4x + 5$

D $y = 4x - 1$
$y = \frac{1}{4}x + 5$

2. In the diagram shown, parallel lines are cut by a transversal.



Which of the following pairs is an example of alternate interior angles?

A ∠1 & ∠2

B ∠3 & ∠6

C ∠1 & ∠4

D ∠1 & ∠8

3. Which of the following lengths could represent the sides of a right triangle?

A {3, 5, 7}

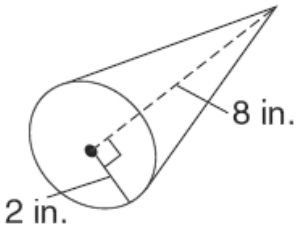
B {4, 5, 6}

C {3, 4, 5}

D {1, 2, 3}

4. The size of the new super cone at Friendly's is shown below.
Determine the volume of the cone *to the nearest tenth.*

$$Volume = \frac{1}{3}\pi r^2 h$$



A 64.0 in³

B 100.5 in³

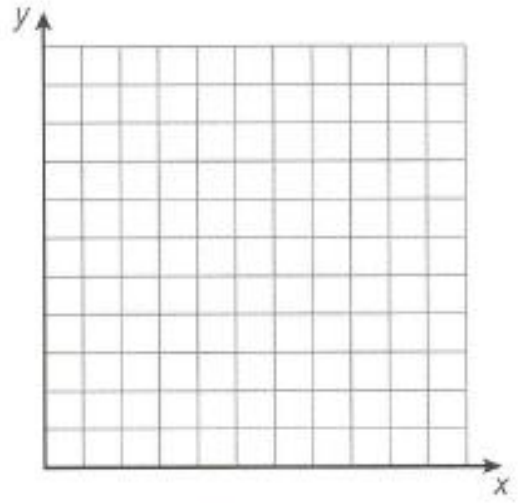
C 50.3 in³

D 33.5 in³

5. During the first 9 basketball games, Tyson records the number of shots he takes and the number of points scored. His data is shown in the table below.

Part A Construct a scatter plot.

Shots Attempted (x)	***Points Scored (y)***
7	17
5	12
5	10
2	3
6	15
4	10
3	8
7	20
3	6



Part B What type of correlation does the data show?

Answer_____

Part C If Tyson takes 8 shots in the next game, how many points would he be expected to score?

Answer_____

6. Given the relation below, answer the following questions.

$$\{(0, 0), (7, 3), (7, 1), (2, 6), (-5, 8)\}$$

Domain:

Range:

Is this a function? Explain.

_____

_____

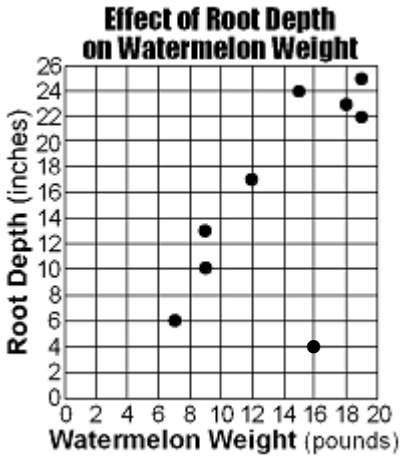
_____

7. Athena surveyed 100 students to determine the most popular New York sports teams. She found that 64 students like both the Yankees and Knicks, and 82 total students like the Yankees. Ten students did not like either team.

Use Athena's data to complete the table.

	☺Knicks	☹Knicks	Total
☺Yankees			
☹Yankees			
Total			

8. Which of the points shown on the scatter plot could best be described as an outlier?



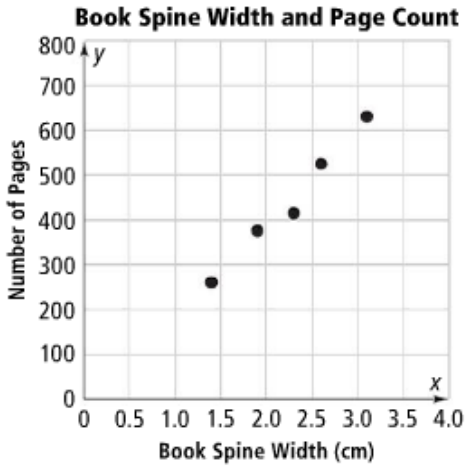
A (4, 16)
B (15, 24)
C (16, 4)
D (7, 6)

9. The scatter plot below represents the relationship between the time spent walking and the amount of weight lost per week.

Based on the data shown, which of the following statements is true?

A As the amount of time increases, the amount of weight loss decreases.
B Only one person walked for more than 3 hours.
C Everyone in this survey lost at least 8 pounds.
D This scatter plot contains a cluster.

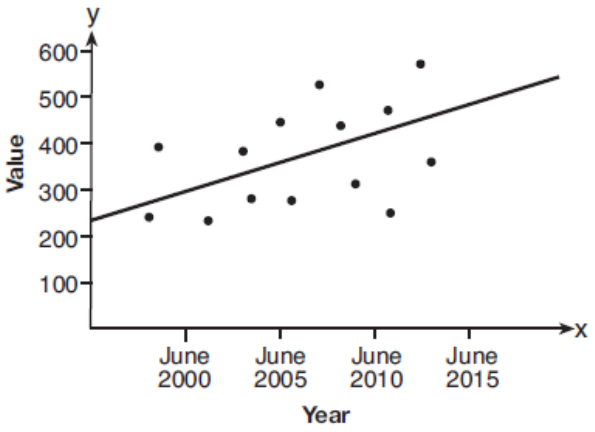
10. The scatter plot below shows the relationship between a book spine width and the number of pages.



Based on the graph, what is the best estimate of the number of pages for a book with spine width 2.5 cm?

A 200
B 500
C 350
D 700

11. Based on the line of best fit drawn below, which value could be expected for the data in June 2015?



A 230
B 550
C 310
D 480

12. A bicycle club went on a six-hour ride. The graph below shows the relationship between the number of hours spent on the trails and the number of miles traveled.

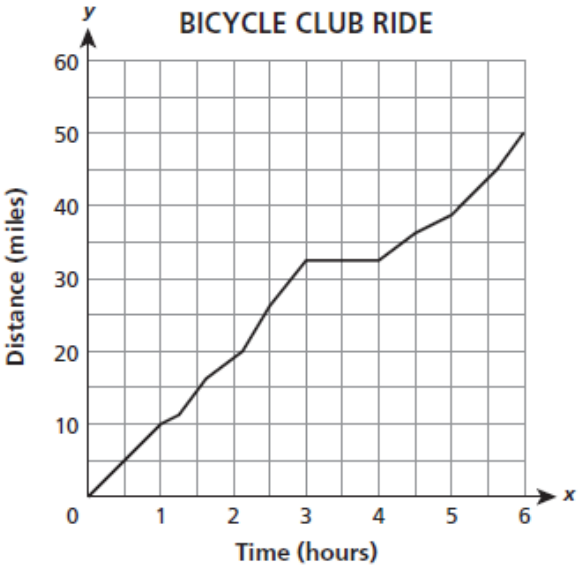
Which statement best interprets information provided by the graph?

A The club members rode at a constant speed for the entire ride.

B The club members stopped for a rest during their ride.

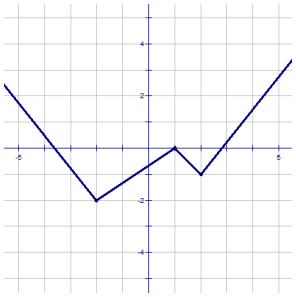
C The number of miles traveled increased continuously throughout the ride.

D The number of miles traveled increased some of the time and decreased some of the time.

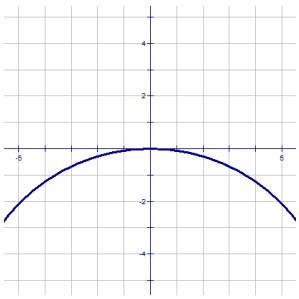


13. Which of the following graphs does not represent a function?

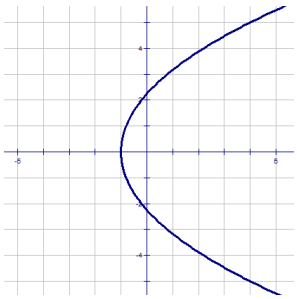
A



B



C



14. Use the table of values shown to answer the following questions.

x	*y*
2	2
4	8
6	14
8	20

Part A Does the table of values represent a linear function? Explain.

_____

_____

Part B Determine the function rule ($y = mx + b$).

15. Which of the following relations represents a function?

A {(A, B), (A, C), (D, E), (G, H)}

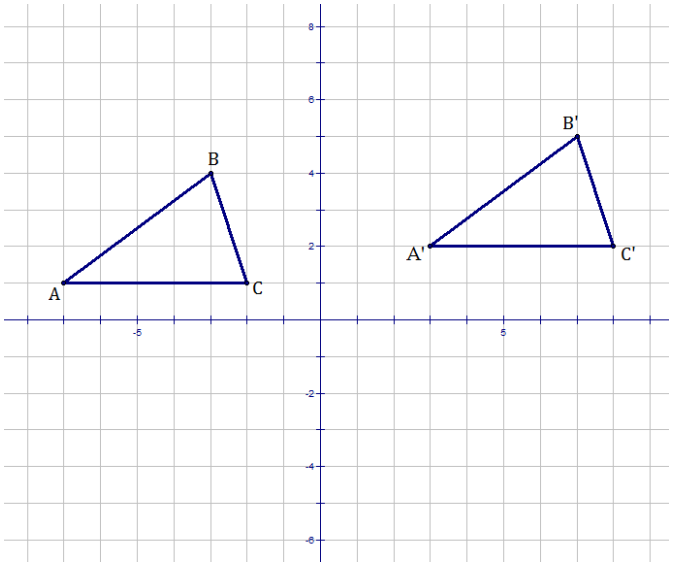
B {(☆, △), (△,☆), (♡, @), (@,♡)}

C {(#, $), (%, +), (?, ?), (%, ⇧)}

D {(7, 5), (3, 2), (1, 6), (7, 4)}

16. The two legs of a right triangle measure 21 cm and 28 cm. What is the length of the hypotenuse? *Show your work.*

17. Which type of transformation is shown below?



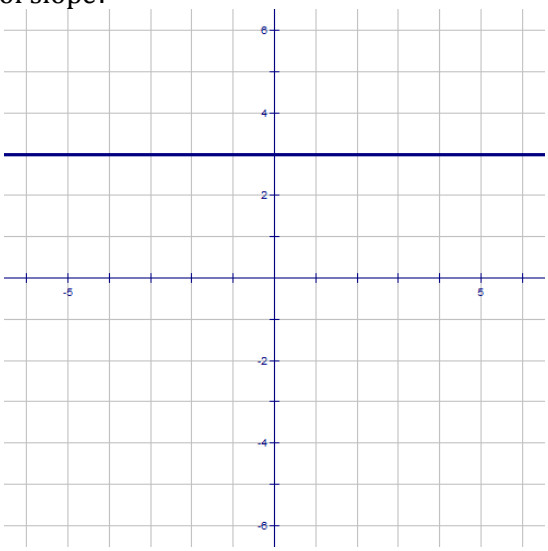
A Reflection

B Rotation

C Translation

D Dilation

18. The linear equation graphed below has which type of slope?



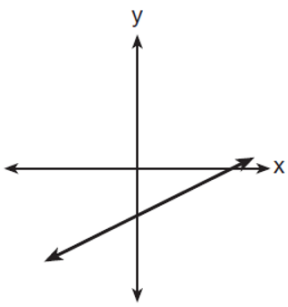
A Positive

B Negative

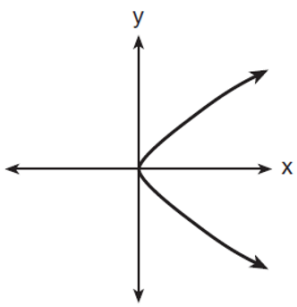
C Zero

D Undefined

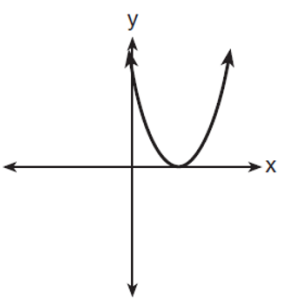
29. Which of the following graphs does not represent a function?



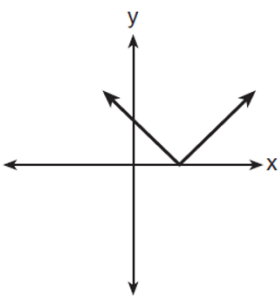
A



B

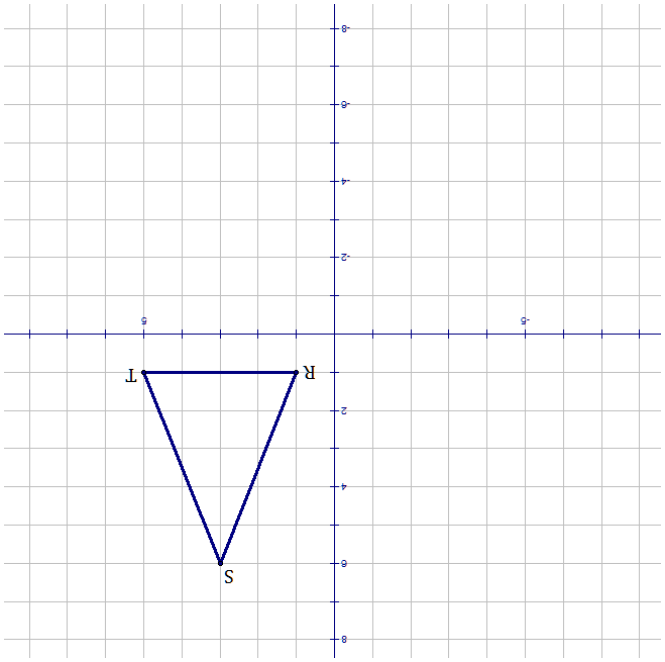


C



D

20. If △RST is rotated 180° clockwise, what will be the coordinates of T'?



A (5 , 1)

B (10, 2)

C (1, -5)

D (-5, -1)

21. The mass of Jupiter's four largest moons are shown below.

Jupiter's Moons

Moon	*Mass (kilograms)*
Io	8.9×10^{22}
Europa	4.8×10^{22}
Ganymede	1.5×10^{23}
Callisto	1.1×10^{23}

Which moon has the largest mass?

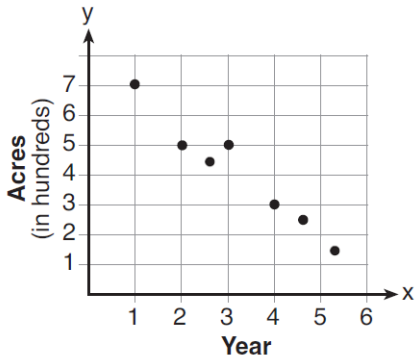
A Io

B Europa

C Ganymede

D Callisto

22. The graph below illustrates the number of acres used for farming in Smalltown, New York, over several years.



What type of correlation is shown?

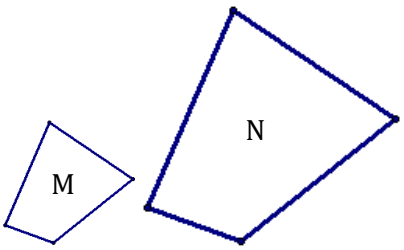
A Positive Correlation

B Negative Correlation

C No Correlation

D Cluster

23. A transformation on Figure M produced the image of Figure N.



Based on the diagram, which of the following statements must true?

A Figure M and Figure N are congruent.

B Figure M was translated to the right.

C Figure N is a reflection of Figure M.

D Figure M and Figure N are similar.