

Jose de Diego Middle School



Mathematics



Grade 8

Winter Break Packet

Instructions: Review all your notes prior to answering the questions. SHOW ALL WORK IN ORDER TO RECEIVE FULL CREDIT. If you need any assistance, please email me at brownprealgebra@gmail.com. Good luck! Have a safe, wonderful and most importantly fun holiday!

1.

| In a triangle ABC , $m\angle A = 36^\circ$ and $m\angle B = 92^\circ$. What is the measure of $\angle C$?

Answer: $m\angle C = \underline{\hspace{2cm}}^\circ$

2.

Write a valid argument concerning the measures of corresponding angles of similar triangles.

3.

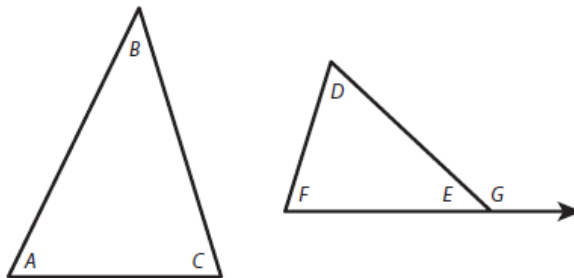
Triangles ABC and DEF shown in the diagram are similar.

In triangle ABC , $m\angle A = 64^\circ$.

In triangle DEF , $m\angle F = 73^\circ$.

What is the measure of $\angle G$?

Answer: $m\angle G = \underline{\hspace{2cm}}^\circ$



4.

Determine the slope-intercept equation of the following table.

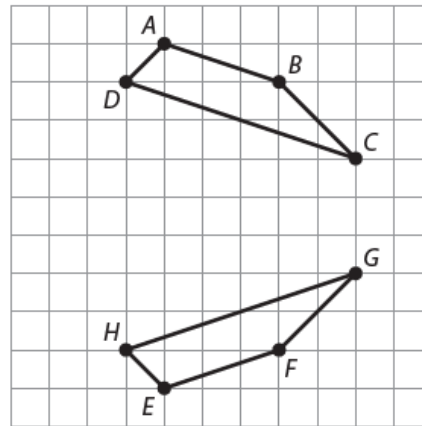
X	Y
3	-15.5
6	-29
9	-42.5
12	-56

5.

Trapezoid $EFGH$ is the result of a transformation on Trapezoid $ABCD$.

Write a word or segment from the box to correctly complete the sentences.

parallel perpendicular reflection
rotation translation \overline{CD} \overline{EF} \overline{FG}



Answer:

$EFGH$ is a _____ of $ABCD$.

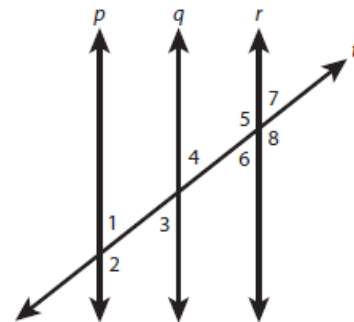
If \overline{CD} is parallel to \overline{AB} , then \overline{GH} is _____ to _____.

6.

The diagram shows parallel lines p , q , and r cut by transversal t .

Draw a line from each angle pair to the correct description.

- | | |
|---------------------------|---------------------------|
| $\angle 1$ and $\angle 4$ | alternate interior angles |
| $\angle 2$ and $\angle 3$ | corresponding angles |
| $\angle 3$ and $\angle 4$ | same-side interior angles |
| $\angle 4$ and $\angle 6$ | vertical angles |

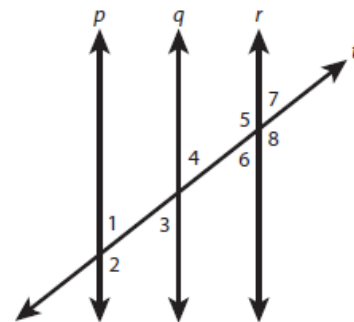


7.

The diagram shows parallel lines p , q , and r cut by transversal t .

Draw a line from each angle pair to the correct description.

- | | |
|---------------------------|---------------------------|
| $\angle 1$ and $\angle 4$ | alternate interior angles |
| $\angle 2$ and $\angle 3$ | corresponding angles |
| $\angle 3$ and $\angle 4$ | same-side interior angles |
| $\angle 4$ and $\angle 6$ | vertical angles |



8.

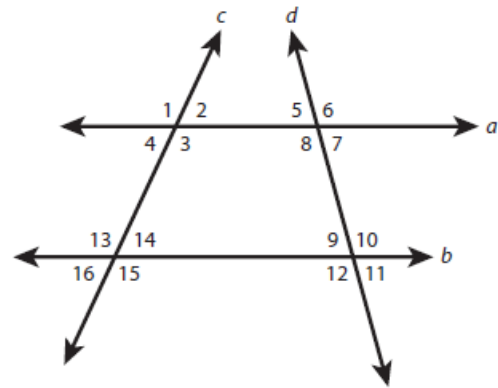
The diagram shows parallel lines a and b cut by transversals c and d .

If $m\angle 1 = 115^\circ$ and $m\angle 8 = 105^\circ$, what is the measure of each of the following angles?

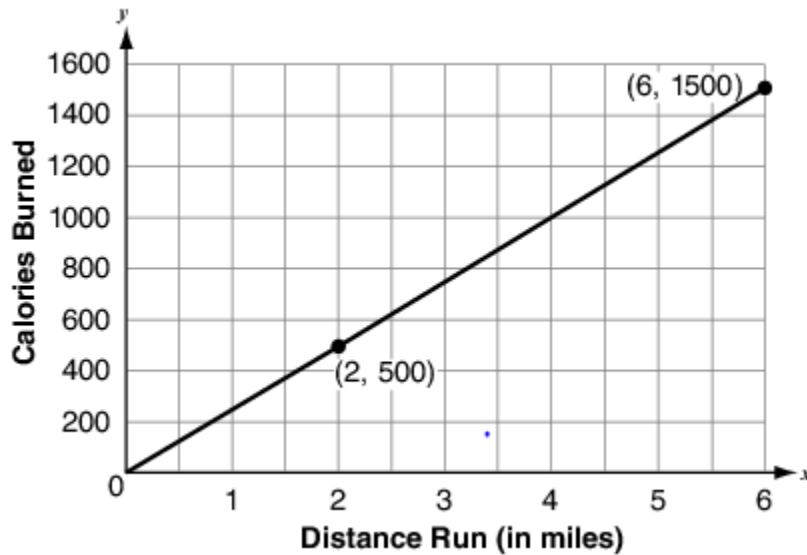
Answer: $m\angle 5 = \underline{\hspace{2cm}}^\circ$

$m\angle 11 = \underline{\hspace{2cm}}^\circ$

$m\angle 16 = \underline{\hspace{2cm}}^\circ$

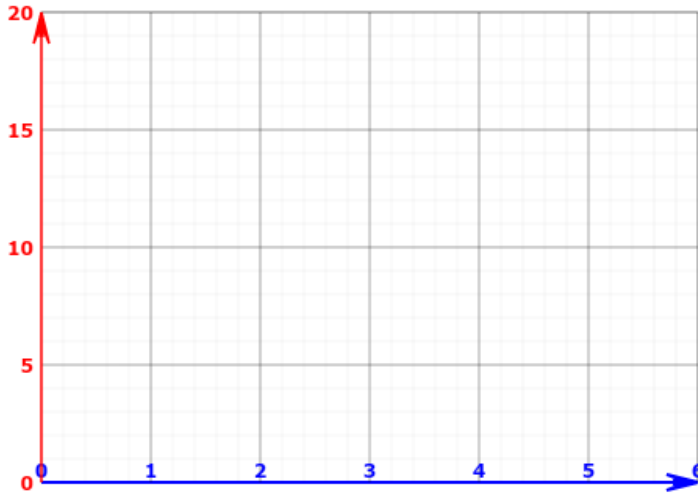


9. Benito drew a graph representing the number of miles he ran and the number of calories he burned. What is the unit rate in calories per mile?

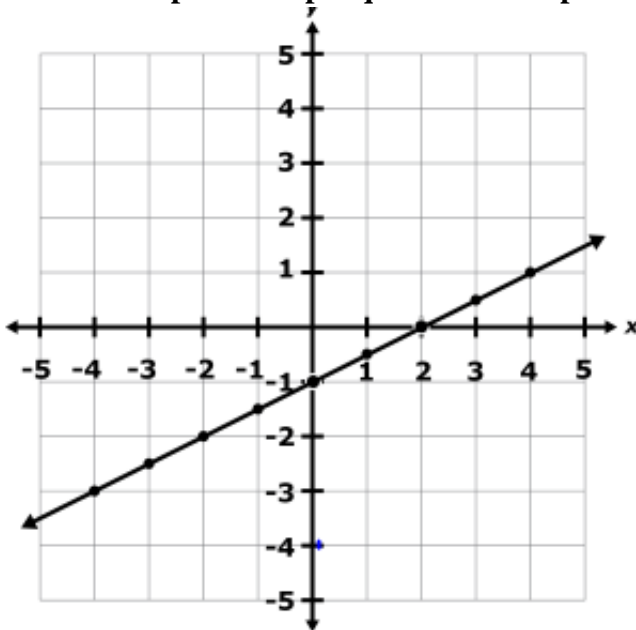


10. The equation $p = 3.25b$ can be used to find the price, p , in dollars, of b pounds of blueberries at a supermarket. Create a table to show the total of various pounds of blueberries. Graph.

Blueberries (b)	Price (p)
0	
2	
4	



11. Write the slope intercept equation that represents this graph.

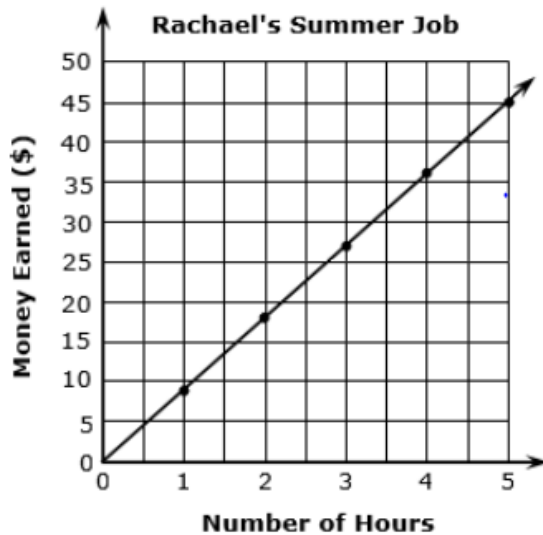


12. Write a proportion that can be used when deriving the equation of the line $y = 0.5x$ with similar triangles. (Hint: Think of slope = rise/run)

13. Determine the slope-intercept equation of the following table.

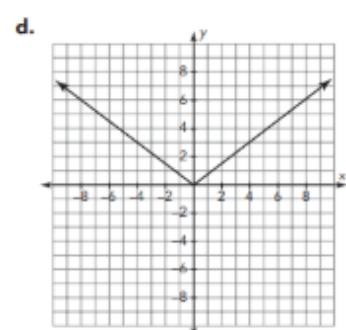
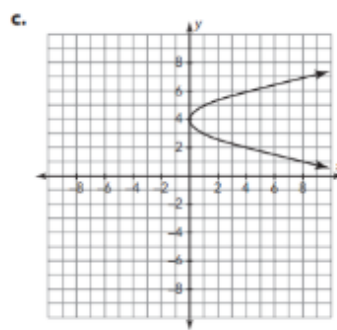
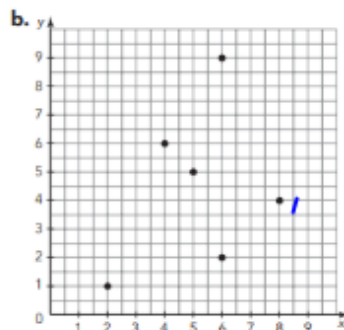
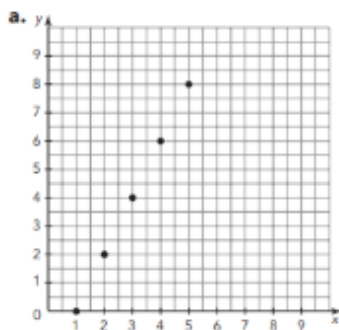
X	Y
3	-15.5
6	-29

14. Rachael has a summer job working at a library. The graph shows the relationship between the number of hours Rachael worked and the amount of money, in dollars, that Rachael earned. Write the equation that represents the amount of money, m , in dollars, that Rachael earned by working h hours.

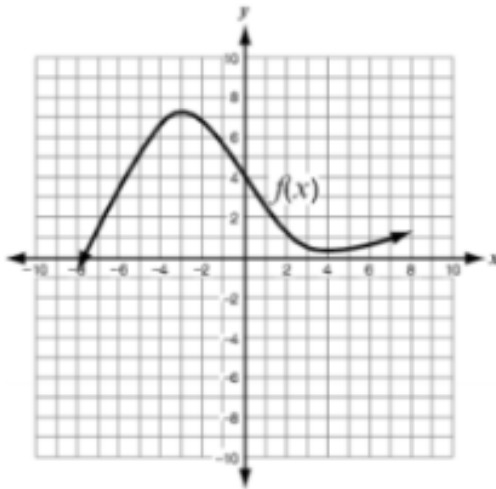


15. A function is a rule that defines a relationship in which each _____ is paired with exactly one _____. This means that input values (can | cannot) repeat while output values (can | cannot).

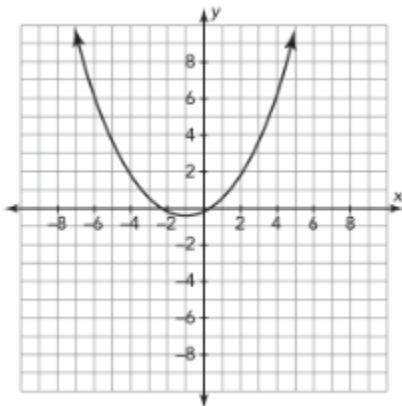
16. Which graph does not represent a function? Select all that apply.



17. On which interval is the function $f(x)$ is increasing? Decreasing?



18. Which best describes the following graph? Select all that apply.



- a. nonlinear
- b. linear
- c. increasing
- d. decreasing
- e. continuous
- f. discrete

19. Several functions represent different savings account plans. Which functions are nonlinear.

- $y = 5.50x + 7$
- $y = 5.50(1.02)^x$
- $y = 0.5(x)^2$
- $y = 7.25x$
- $y = 7.25 + x^2$

20. The table below represents a linear relationship between x and y . Compare the rate of change of the values in the table with the rate of change of the equation $y = 2x + 10$.

x	y
1	8
2	11
3	14
4	17