

Name:

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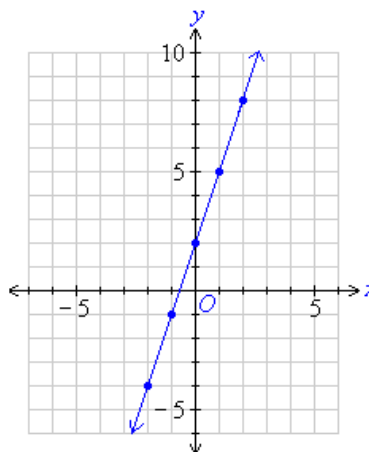
Test 7 Review: Linear Patterns and Slope as Change (Unit 7, 8 & 9)

1. Compare and contrast the graph and table below. (You must write at least 2 sentences to compare and 2 sentences to contrast.)

Representation 1

x	y
-2	-4
-1	-1
1	5
2	8

Representation 2

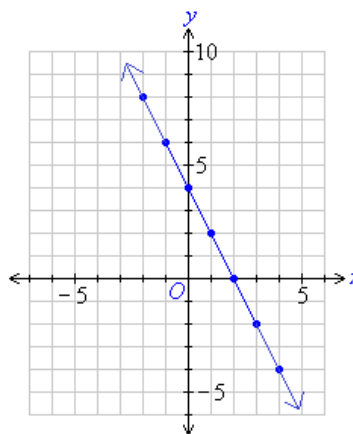


2. Compare and contrast the graph and table below. (You must write at least 2 sentences to compare and 2 sentences to contrast.)

Representation 1

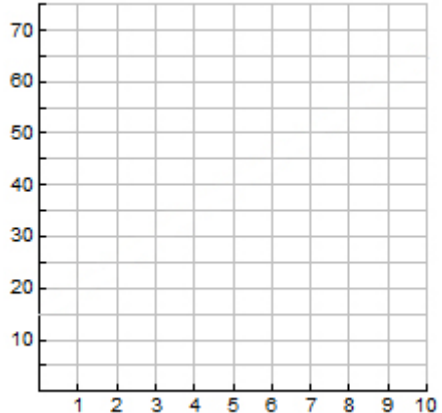
x	y
-2	-8
-1	-6
1	-2
2	0

Representation 2



3. Rebecca and Carlos sold posters for a school fundraiser. Rebecca sold five more than three times the number of posters that Carlos sold. Write an equation to represent this situation.

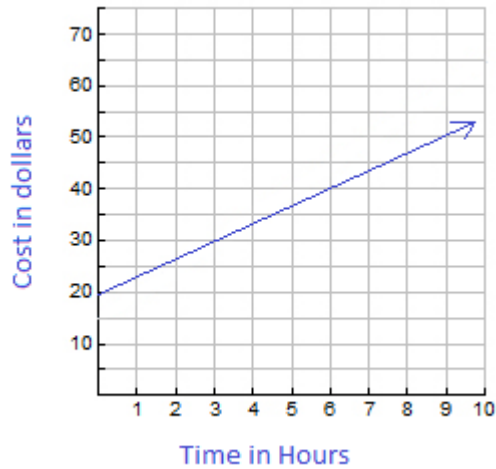
4. The relation given by the ordered pairs $\{(0, 15), (2, 25), (3, 30), (5, 40)\}$ can be represented in several ways. Create each of the following representations that could be represented by the ordered pairs above.

Verbal	Table										
	<table border="1" style="margin: auto; border-collapse: collapse;"> <thead> <tr> <th style="padding: 5px;">x</th> <th style="padding: 5px;">y</th> </tr> </thead> <tbody> <tr><td style="height: 20px;"></td><td style="height: 20px;"></td></tr> <tr><td style="height: 20px;"></td><td style="height: 20px;"></td></tr> <tr><td style="height: 20px;"></td><td style="height: 20px;"></td></tr> <tr><td style="height: 20px;"></td><td style="height: 20px;"></td></tr> </tbody> </table>	x	y								
x	y										
Graph	Equation										
											

5. Give a set of ordered pairs that are on the graph of the function $y = -3x - 4$. Give a set of ordered pairs that are not on the function $y = -3x - 4$.

6. Give a set of ordered pairs that are on the graph of the function $y = 15x + 5$. Give a set of ordered pairs that are not on the function $y = 15x + 5$.

7. Use the graph to determine the hourly rate charged and the initial fee.



8. Write an equation for each of the following situations.

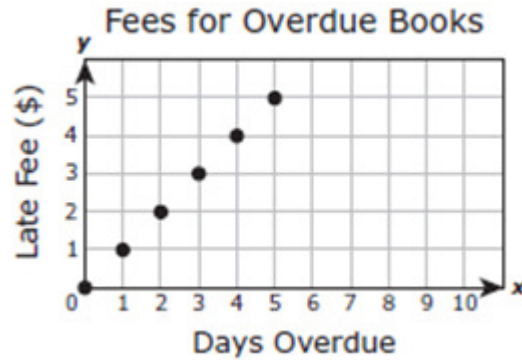
- A** Jerome pays a flat fee of \$10 per month and an additional \$0.05 per MB of data on his mobile device.
- B** Juanita travels at a rate of 2 miles per hour toward home and starts 20 miles from home.
- C** Julia has \$20 in her bank account and withdraws \$0.07 each day.
- D** James has 100GB of data on his computer and deletes 20GB each day.

9. Describe the graph of the function below in each of the ways indicated.

$$y = -2x + 3$$

- A** Ordered pairs on the graph of the function.
- B** The slope of the function and a point the line passes through.
- C** On the graph of the function when the x -value _____ by _____ units the y value _____ by _____ units.

10. Chuck has 4 library books that are overdue. His fees for the overdue books are shown below.



A Fill in the blanks: The ordered pair (1, 1) means that Chuck owes _____ on the _____ day his four books are overdue. This means each book has a daily late fee of _____.

B Write a sentence to describe what the ordered pair (2, 2) means.

C Summarize what the graph tells you about the situation.

11. The data table below represents the domain and range of a function. Write an algebraic expression that could be used to find the missing values of the range.

x	-11	-5	-2	0	2	5	11
y	?	-19	-10	-4	?	11	29

12. If possible write an expression that could be used to find the n th term for each of the following sequences.

A $\{3, \frac{8}{3}, \frac{7}{3}, 2, \dots\}$

B $\{0, 1, 2, 3, \dots\}$

C $\{2, 5, 8, 11, \dots\}$

13. Some situations can be represented by linear functions. Give two examples that could be represented by a linear function and give two examples that could not be represented by a linear function.

EXAMPLE	NON EXAMPLE

14. Fisherman in the Finger Lakes Region have been recording the dead fish they encounter while fishing in the region. The Department of Environmental Conservation monitors total carbon emissions for the Finger Lakes Region in metric tons. The model for the number of fish deaths, y , for a given amount of carbon emissions in tons, x , is $y = 7.2x + 98$. What is the meaning of the slope?

15. Mr. DuNomes buys a book at a 20% discount. After the discount was applied the price of the book was \$22.90. Write an equation to find the original price? What was the original price? Is your answer reasonable? Why or why not?

16. Road Trip! The table below shows how far Ms. Gresham and Ms. Ryals are from the San Antonio Riverwalk after so many minutes of driving. No pit stops. (Bathroom breaks are for babies.)

Minutes of driving	Distance from Riverwalk
30	170 miles
90	110 miles
120	80 miles
180	20 miles

How far were Ms. Gresham and Ms. Ryals from the Riverwalk when they started their drive? Explain how you found your answer.

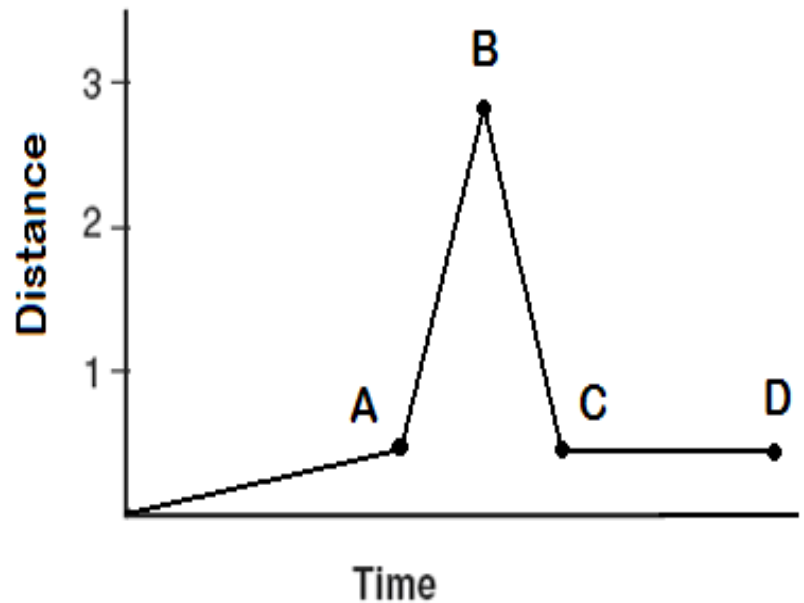
17. John left his home and walked 3 blocks to his school, as shown in the accompanying graph.

What is one possible interpretation of the section of the graph from the origin to point *A*?

What is one possible interpretation of the section of the graph from point *A* to point *B*?

What is one possible interpretation of the section of the graph from point *B* to point *C*?

What is one possible interpretation of the section of the graph from point *C* to point *D*?



18. The value of Theresas pay varies directly with the number of hours she works. Her pay is \$235 for 18 hours of work. Find the amount of pay for 35 hours of work.

19. The height of a triangle can be represented by $3x^5 + 2$, the base can be represented by $4x - 1$ and the hypotenuse can be represented by $5x^5 + 8$. Write an expression that could represent the perimeter of the triangle?

20. Camron is going to buy hot wheels for his friends as Christmas gifts. He has 3 to 8 friends he may buy a gift for. What is a reasonable domain for this situation? Create a table that could represent this situation.
21. James charges \$7.00 per hour for raking leaves. He has 5 hours to devote to raking Mrs. Jone's yard, though he might complete the job sooner. What is the domain and range of this situation? Is your answer reasonable? How do you know?
22. The area of a rectangle is $126c^{11}d^3$. If the width is $7c^8d^2$, what is the rectangle's length?
23. The volume of a rectangular prism is $385c^{21}d^{11}$. If the width is $5c^6d^4$, the height is $7c^9d^2$ what is the prisms length?
24. A rectangle has a height of $4x + 3$ and a width of $6x + 5$. If the measure of its shorter side is doubled, write an expressions can be used to find the resulting perimeter?

