

## Proportional vs. Non-proportional (In Graphs)

Proportional - The unit rates are the same  
Constant Rate

Non-proportional - The unit rates are NOT the same  
Not Constant

Sep 16-6:47 PM

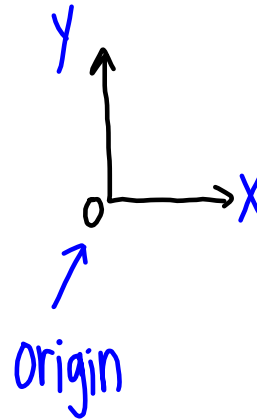
Proportional relationships in graphs:

1. Always starts at the Origin (zero)
2. Graph is always a Straight line

Sep 14-7:54 PM

## How to find unit rates from a Graph:

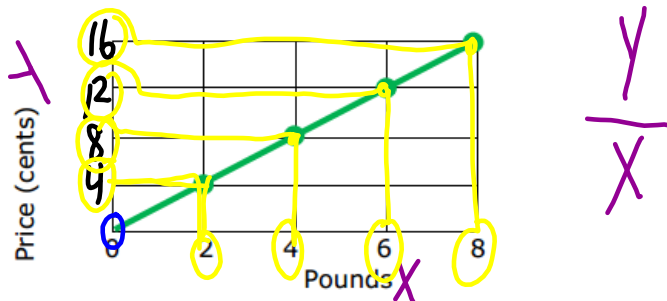
Divide:  $\frac{Y}{X}$



Sep 18-10:14 AM

Johnny purchased candy. Use the graph to determine if the quantities of candy and price are proportional for each serving size listed in the table. If the quantities are proportional, they will have the same unit rate.

Pounds	2	4	6	8
Price	4	8	12	16

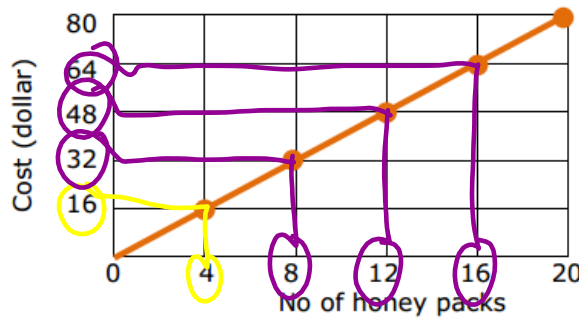


*Proportional - straight line and starts at zero.*

*Unit Rate = \$0.02 per pound*

Sep 14-7:37 PM

The graph below represents the cost of a given number of packs of honey. Does the graph represent a proportional relationship?



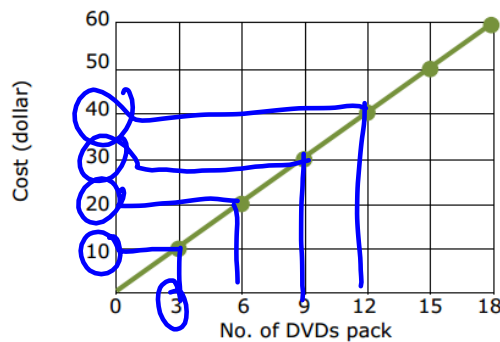
*\$4 per pack*

*Proportional - straight line and starts at zero.*

*Unit Rate = \$4 per pack*

Sep 14-7:39 PM

The graph below represents the cost of DVD packs. Does the graph represent a proportional relationship?



*3.3*

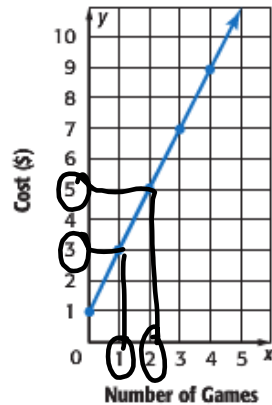
*\$3.33 per pack*

*Proportional - straight line and starts at zero.*

*Unit Rate = \$3.33 per pack*

Sep 14-7:41 PM

The cost of renting video games is shown in the table and graph. Is the cost proportional to the number of games rented?



Video Game Rental Rates	
Number of Games	Cost (\$)
1	3
2	5
3	7
4	9

3 2.5

*Non-Proportional - Does NOT start at zero.*

*Unit Rate = Not the same*

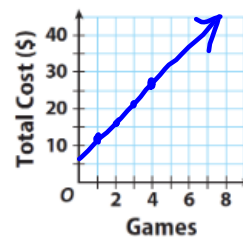
Sep 14-7:59 PM

P. 130

**YOUR TURN**

**Q** 1. Jared rents bowling shoes for \$6 and pays \$5 per bowling game. Is the relationship a proportional relationship? Explain.

Games	1	2	3	4
Total Cost (\$)	11	16	21	26



*NO, it doesn't start at zero.  
the units are different.*

Sep 17-9:46 AM

# Ordered Pairs (x,y)

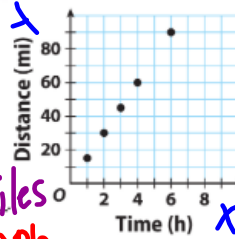
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**YOUR TURN**



5. The graph shows the relationship between the distance a bicyclist travels and the time in hours.

- a. What does the point (4, 60) represent?  
In 4 hours he traveled 60 miles
- b. What is the constant of proportionality? 15 mph
- c. Write an equation in the form  $y = kx$  for this relationship. \_\_\_\_\_



$$\frac{60}{4} = 15$$

Constant of Proportionality = Unit Rate

Sep 17-9:50 AM