

Name \_\_\_\_\_

Date \_\_\_\_\_

### Topic 4: Comparing Proportional Relationships

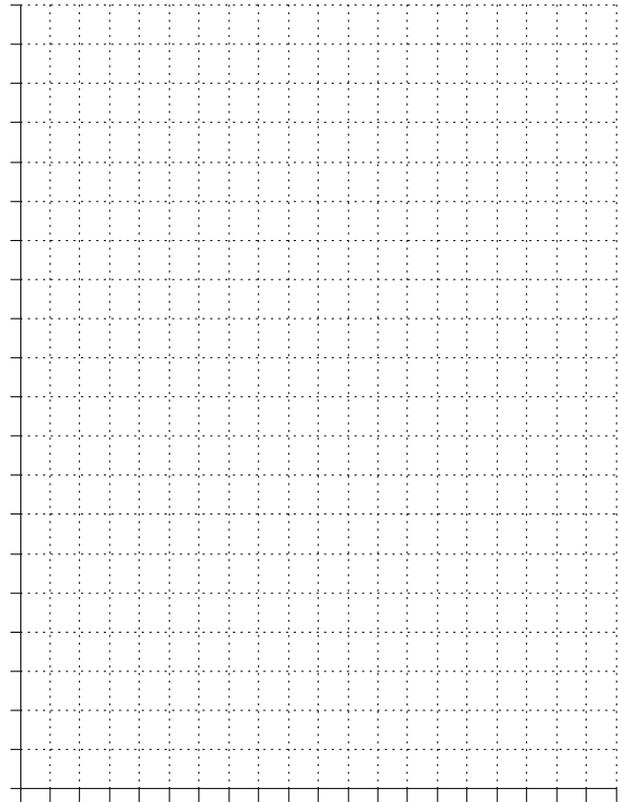
#### **Connecting a table of values to a graph**

Video Help: <https://learnzillion.com/lessons/1195-display-all-possibilities-in-a-proportional-relationship-by-graphing>

- 1) Joseph wanted to buy new computer games. The Computer Store displayed the following table showing the price of the games.

Games	Cost
4	\$92
8	\$184
12	\$276
16	\$368

- a. Create a scatterplot to graph the data in the table above.



- b. Draw a line to connect the points.
- c. Find the slope of the line.
- d. Explain the meaning of the slope of the line.

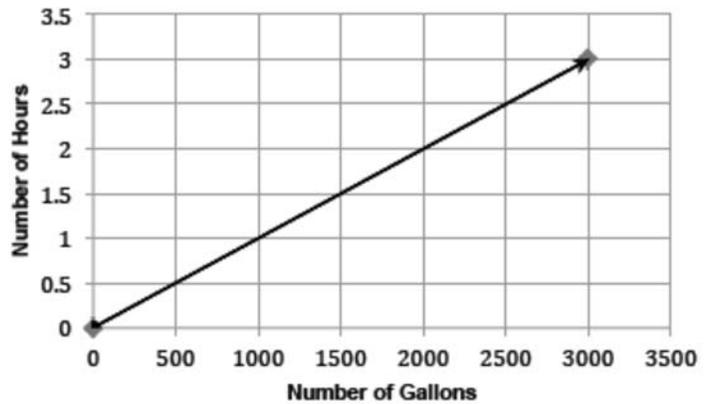
- e. How can you use the slope to find the cost for 3 computer games?

### Connecting a graph to an equation

Video Help: <https://learnzillion.com/lessons/1198-understand-proportional-relationships-by-relating-graphs-and-equations>

- 2) The Town is filling the Community pool for the summer. The graph below shows the rate at which the pool is being filled.

**Filling an Olympic Pool**



- At what hourly rate is the pool being filled?
- Determine the equation of the line in the graph above.
- How can you use the equation to determine how long it would take to fill a 660,000 gallon pool?

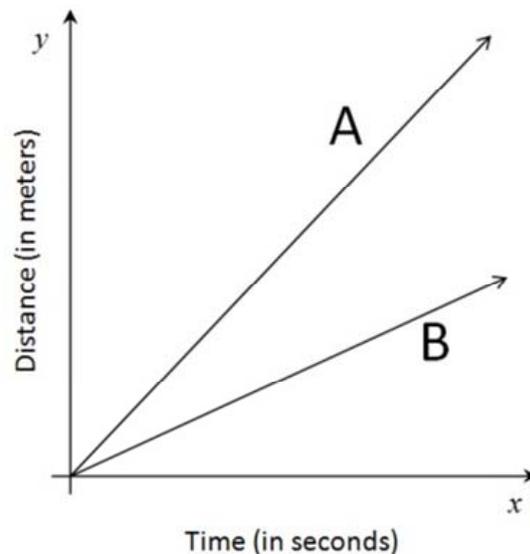
### Comparing a table of values, graph and equation

Video Help: <https://learnzillion.com/lessons/1199-compare-proportional-relationships>

- 3) The graphs below show the distance two cars have traveled along the freeway over a period of several seconds. Car A is traveling 30 meters per second.

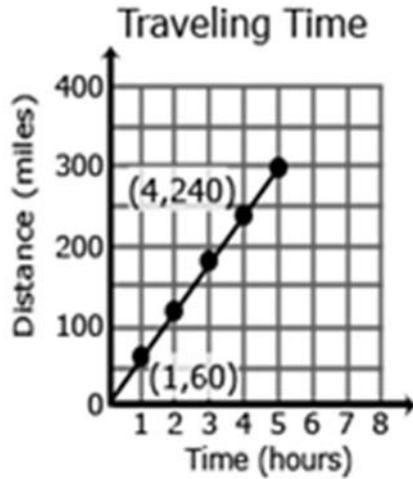
Which equation from those shown below is the best choice for describing the distance traveled by car B after  $x$  seconds? Explain.

- $y = 85x$
- $y = 60x$
- $y = 30x$
- $y = 15x$



4) Compare the two scenarios below.

Scenario 1:



Scenario 2:

$$y = 50x$$

$x$  is time in hours

$y$  is distance in miles

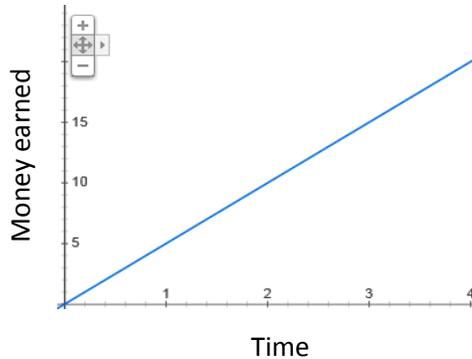
Which scenario represents the faster speed? Include a description of each scenario including the unit rates in your explanation.

5) Michelle, David and Linda babysit on the weekend.

**Michelle** made a chart to show how much money she earned for babysitting this past month.

Hours	Money earned
3	\$24
5	\$40
6	\$48
9	\$72

**David** drew a graph to show the amount he earned over the past month.



**Linda** earns \$7.00 per hour.

- How much money does Michelle earn per hour?
- How much money does David earn per hour?
- How much money will each person earn if they babysit for 12 hours?

- 6) Mark works at an after-school program at an elementary school. The table below shows how much money he earned every day last week.

	Monday	Wednesday	Friday
Time worked	1.5 hours	2.5 hours	4 hours
Money earned	\$12.60	\$21.00	\$33.60

Kelly has a job mowing lawns that pays \$7 per hour.

- a) How much money does Mark earn per hour?
- b) Who would make more money for working 10 hours? Explain or show work.

- c) Draw a graph that represents  $y$ , the amount of money Mark would make for working  $x$  hours, assuming he made the same hourly rate he was making last week.
- d) Using the same coordinate axes, draw a graph that represents  $y$ , the amount of money Kelly would make for working  $x$  hours.
- e) How can you see who makes more per hour just by looking at the graphs? Explain.

