Graphing Proportional Relationships

Think About This...

The equation $y = 5x$ represents the relationship between the number of gallons of water used (y) and the number of minutes (x) for most showerheads manufactured before 1994.

Complete the table.

Time (min)	1	2	3		10
Water used (gal)	5			35	

Each minute, 5 gallons of water are used. So for 2 minutes, 2 · 5 gallons are used.

Write the data in the table as ordered pairs (time, water used).

(1, 5), (2, ____), (3, ____), (__ , 35), (10, ____)

Plot the points on a graph. Label the Y and X axis appropriately and accurately measure both.

- What do you notice?
- If the showerhead is used for o minutes, how many gallons of water will be used? What ordered pair represents this situation? What is this location called?

Identifying Proportional Relationships

- In addition to using a table to determine if a relationship is proportional, you also can use a graph. A relationship is a proportional relationship if its graph is a straight line through the origin.

The table shows the relationship between the amount charged by a housecleaning company ($) and the amount of time worked (hours). Is the relationship a proportional relationship? Explain.

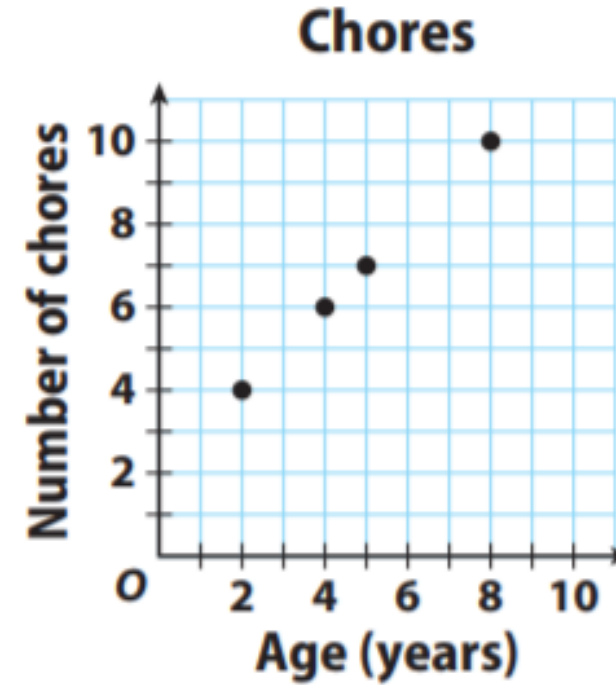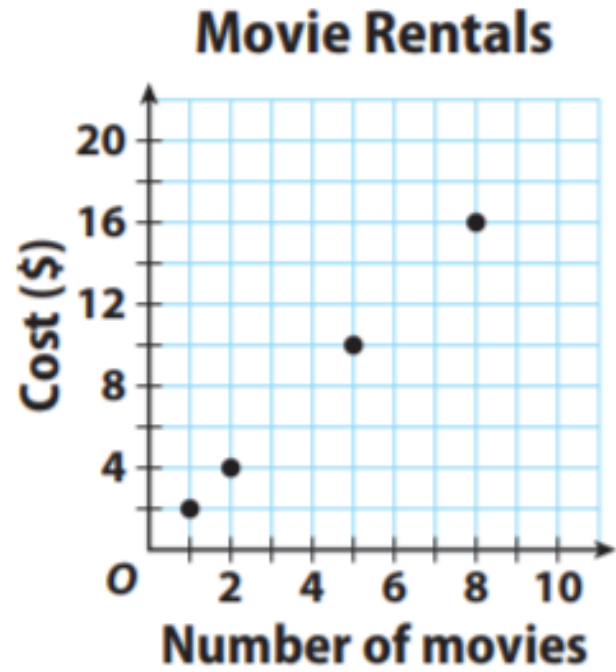| Time (h)	1	2	3	5	8
Total cost ($)	45	90	135	225	360

Write the data as ordered pairs

Graph the points.

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

Just to check..

Movie Rentals

Chores

Analyzing Graphs