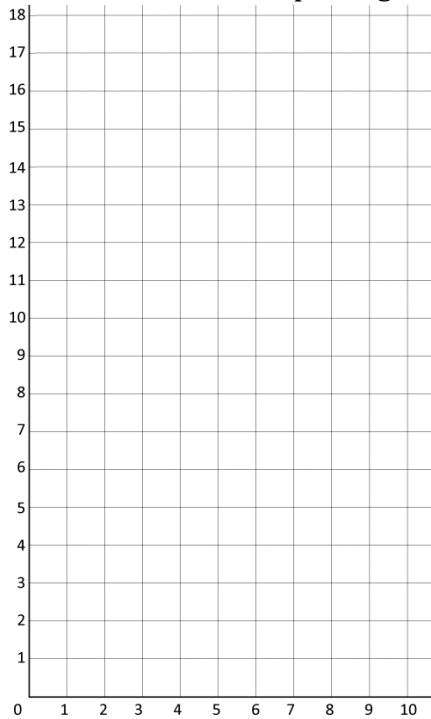**Linear Equations - Direct Variation**

Ms. Draper's Prius was running on empty, so she stopped to fill her tank. The gas cost $2 per gallon.
Write a slope-intercept form equation for the scenario. What do you notice?

Model the relationship using the graph and table. Complete the task in the text box.

X:	Y:
0	
2	
4	
6	
8	

Find the ratio of each output to each input. Compare to the slope.

Key Ideas

What is this type of relationship called?	
What does its graph look like?	
What is its general equation?	
What is its slope called?	
Why is the slope special?	
How can you check for this type of relationship?	

Find the slope of the linear relationship. Determine if the relationship is direct variation. If so, identify the **constant of variation** and write the direct variation equation.
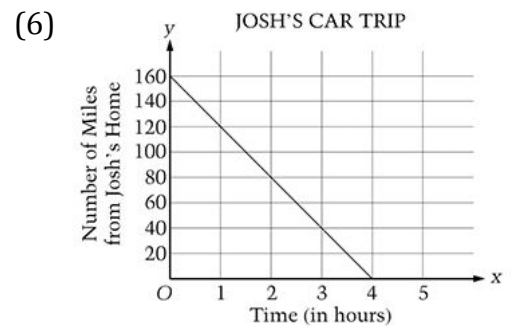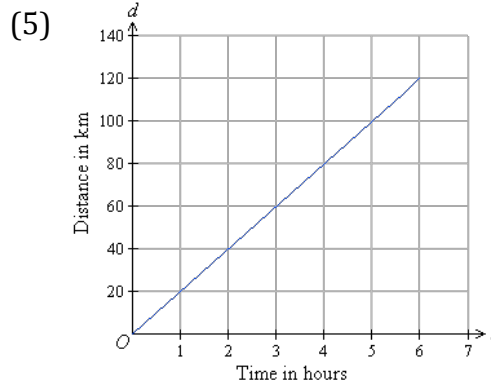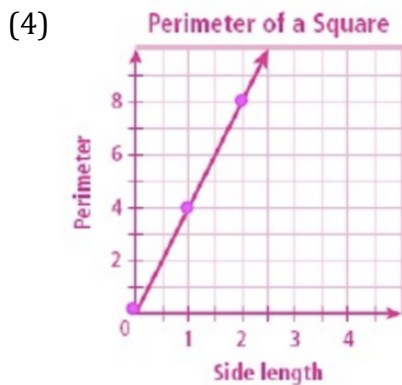
(1)

x	y
5	15
6	18
7	21
8	24

(2)

Temp-erature (°C)	Volume of Gas (mL)
20	60
40	65
60	70
80	75
100	80

(3)

Cups of Sugar	Cups of Flour
2	3
4	6
6	9
8	12
10	15

(4)

Perimeter of a Square

(5)

(6)

JOSH'S CAR TRIP

Define your variables. Write the direct variation equation given the relationship.

(7) Marcia used a recipe that called for 3 sticks of butter for every 2 cups of sugar. Write a direct variation equation for the butter she needs to use depending on how much sugar she uses.

(8) Harry works for minimum wage. After an 8-hour shift, he has earned $61.20. Write a direct variation equation for how much Harry makes depending on the hours he works.

(9) Ciara applies makeup daily. She uses 0.25 ounces of foundation every morning. Write a direct variation equation for how much makeup Ciara has used depending on the number of days she has applied makeup.