

Name: _____

Date: _____

Direct Variation

You will investigate proportional relationships and direct variation. Variation, in general, defines two variables and how when one of these changes, the other might be expected to change. There is direct variation if the two variables change in the same manner, i.e. if one increases, so does the other. Normally, x is the independent variable and y is the dependent variable. Therefore, a change in x produces a change in y .

We could also write this $y = kx$

where k is called the constant of proportionality.

1. You have gotten your first job at the Ice Cream Store making minimum wage. Please note that the Federal Minimum Wage is \$7.25 per hour.
2. Complete the first table that shows the amount of money that you would make if you worked at this job for 0 hours, 1 hour, two hours, seven hours, and 10 hours. Let x = the number of hours worked and y = the amount of money you will earn. Graph your ordered pairs using a pencil.
3. You are a wonderful worker and are compensated with a \$2 per hour raise. Complete the second table that shows the amount of money that you would make if you worked for 0 hours, 1 hour, two hours, seven hours, and 10 hours. Let x = the number of hours worked and y = the amount of money you will earn. Graph your ordered pairs using a pen.

Answer the following:

Will graphs illustrating the amount made per working various jobs always indicate that the number of hours worked and the amount of money made are in direct proportion? Why or why not?

Why do you use a line graph illustrating direct proportion?

x	y	(x,y)

x	y	(x,y)

Please note: the graph of a direct variation is always a straight line that passes through the origin (0,0).

