

When or if you have a part-time job, you may be paid by the hour. The more hours you work the more money you earn.

Suppose you start working 8 hours per week. What will happen to your pay check if you increase your time to 16 hours per week?

So:

Using a graph to Show Direct Variation

Example #1:

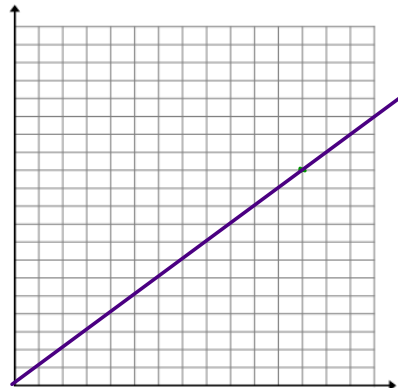
Nicole works part-time at a book store. Her earnings for the past three weeks are shown.

Week	Hours worked (h)	Pay (\$)	Rate of Pay (___/___)
1	6	45	
2	8	60	
3	12	90	

a) Determine Nicole's hourly rate of pay for each week. What does this tell you about the relationship between pay and hours worked?

b) Plot the points and create a graph to model this relationship.

c) How does this example represent direct variation?



d) Use the graph to find Nicole's earnings if she worked 9 hours.

e) Use the graph to find how many hours Nicole must work to earn \$120.

f) How could you calculate Nicole's Pay if she worked 50 hours?

g) Can you represent your method using a formula or equation?

Using an Equation to Show Direct Variation:

Example #2:

The Lego family travels 387 km to their dream cottage. Bobby records their progress.

Time, t , (h)	Distance, d , (km)	Rate of change
0.5	43	
1.5	129	
2.0	172	

- Determine the rate of change. Explain what it means.
- Is this an example of direct variation? Explain.
- Write an equation that models this.
- Use the equation to determine how far the Lego family has travelled after 3.25 hours.
- How long will the trip to the cottage take?
- What assumptions must you make in parts d and e?