

Date: \_\_\_\_\_



### 5.1 Direct Variation & 5.2 Partial Variation

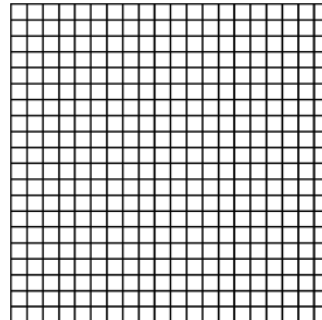
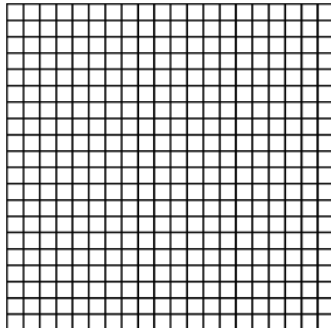
1) Write a relation to model each of the following situations.

- a) Eva has a summer job babysitting. She gets paid \$10 per hour of work.
  
- b) Ava also has a summer job painting fences. She gets paid \$200 for the summer and then earns \$5 for each hour of work.

2) Complete a table of values for each of their summer earnings.

Hours Worked	Earnings	Hours Worked	Earnings
0		0	
10		10	
20		20	
30		30	
40		40	

3) Create a graph to model each of their earnings.



Eva's earnings are an example of **direct variation**, while Ava's are an example of **partial variation**. What do you think that these terms mean with respect to:

- a) a description.
  
- b) an equation.
  
- c) a table.
  
- d) a graph.



### Connections to Previous Learning:

- 1) In the example on the last slide, which variable was the independent variable? Which was the dependent variable?
- 2) How can we tell from our table or our graph which variable is which?
- 3) What type of relationship did both sets of data represent?
- 4) What type of value (ratio, rate, etc) is connected to the independent variable in BOTH of our equations?

In general, the equation of a linear relation takes the form  $y = mx + b$ , where  $y$  is the dependent variable,  $x$  is the independent variable,  $m$  is the rate of change, and  $b$  is the initial value. What does 'b' equal when we are working with direct variation?

### The Rule of Four

When we are working with relationships between data sets, there are four ways to represent it. Refer to the first page. What do you think the four representations are?