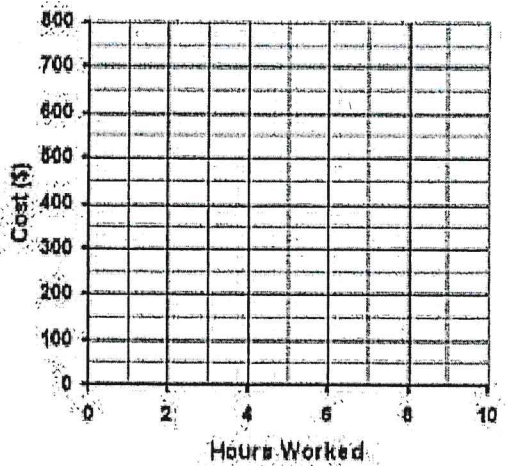


Partial Variation

<u>Description</u>	<u>Table of Values</u>														
Mary the Mover charges a transportation fee of \$150 plus \$100 each hour she works.	<table border="1"><thead><tr><th># of hours</th><th>Cost (\$)</th></tr></thead><tbody><tr><td>0</td><td></td></tr><tr><td>2</td><td></td></tr><tr><td>4</td><td></td></tr><tr><td>6</td><td></td></tr><tr><td>8</td><td></td></tr><tr><td>10</td><td></td></tr></tbody></table>	# of hours	Cost (\$)	0		2		4		6		8		10	
# of hours	Cost (\$)														
0															
2															
4															
6															
8															
10															
<p>⇒ a relationship between 2 variables in which one variable equals a constant multiple of the other, plus an initial value.</p>															
<u>Graph</u>	<u>Equation</u>														
	<p>$C = \text{Cost } (\\$)$ $h = \text{\# of hours worked}$</p>														

3 Key Features of a Linear Relation that show a “Partial Variation”:

1. _____
2. _____
3. _____

Example #1:

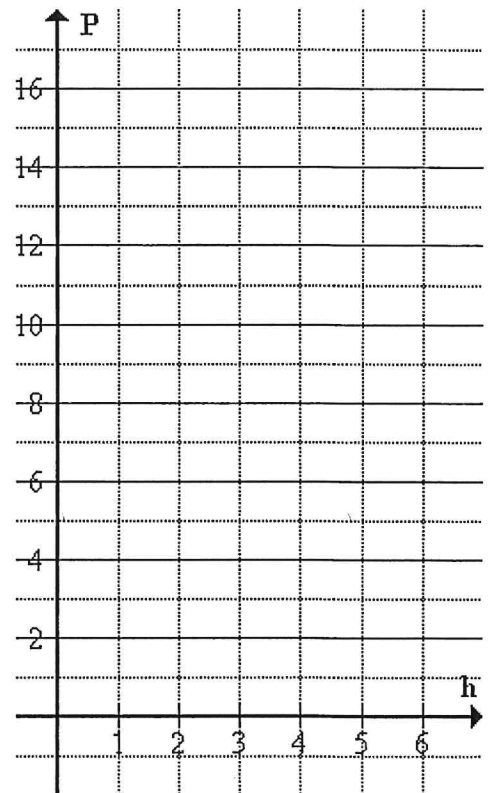
Smee charges \$6 each time he babysits, plus an additional \$2 every hour.



a) Set up a table of values to graph this relation.

Hours, h	Pay(\$), P
0	
1	
2	
3	

b) Graph this relation.



b) Use the graph to predict how many hours he would have to babysit to earn \$16.

c) What is the fixed part of this variation?

ie. vertical intercept _____

d) What is the variable part of this variation?

ie. rate of change _____

e) Write an equation to represent Smee's earnings P , in terms of the number of hours of babysitting, h .

f) Use your equation to calculate Smee's earnings for 9 hours of babysitting.

Example #2

Captain Hook must pay \$425 every week for the rental of his pirate ship. He also must pay an additional amount every time he gives a boat tour. His expenses, for a various number of tours are shown below.



Boat Tours Given	The Captain's Expenses
0	425
1	477.50
2	530
3	582.50

- a) How much does it cost *The Captain* each time he gives a tour? _____
- b) What is the fixed part of this variation? _____ What is the variable part? _____
- c) Write an equation to express his expenses E , in terms of tours given, t . d) Use your equation to calculate his total expenses if he gives 37 boat tours.

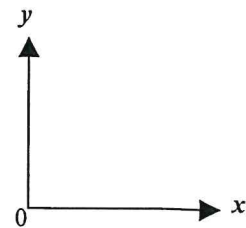
Partial Variation – Key Concepts

✍ A **partial variation** is a relationship in which one variable is a _____ of the other, plus a _____.

✍ Partial variation consists of two parts:

- _____
- _____

✍ The **graph** of a partial variation is a _____ line that **does not** passes through the _____



✍ The equation _____ describes a partial variation between two variables x and y .

