

Descriptions, Tables of Values, Equations, Graphs

1. A rental car costs \$50 plus \$0.20 for each kilometre it is driven.
- What is the dependent variable? **rental cost**
 - Make a table of values for the rental fee up to 1000 km.
 - Graph the relationship.



ind. var. →

1st diff. →

| Number of Kilometres | Cost (\$) |
|----------------------|-----------|
| 0 | 50 |
| 100 | 70 |
| 200 | 90 |
| 300 | 110 |
| 400 | 130 |
| 500 | 150 |

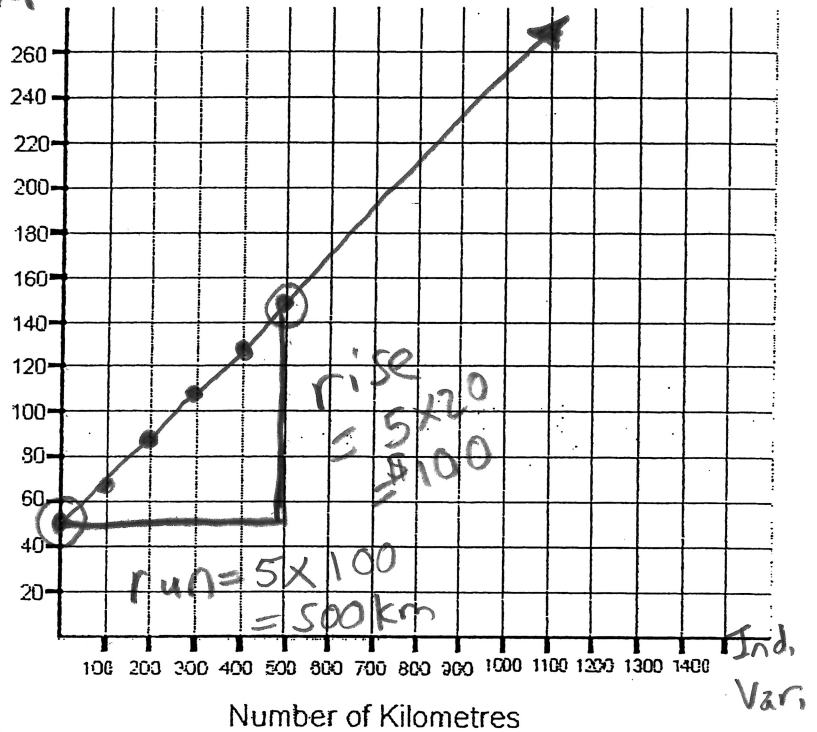
initial value ↓

dep. var. →

1st diff. →

Dep. Var. →

Cost vs. Number of Kilometres



$$\text{rate} = \frac{\text{1st diff. of Cost}}{\text{1st diff. of \# of km}}$$

$$= \frac{\$20}{100 \text{ km}}$$

$$= \$0.20/\text{km}$$

- d) Write an equation to model the relationship. C is the cost and n is the number of kilometres.

$$C = 0.20n + 50$$

- e) Does this relation represent a partial or direct variation? Explain.

Partial

- f) Determine the rental fee for 45 km. Show your work

$$C = 0.20n + 50$$

$$\text{Set } n = 45$$

$$C = 0.20(45) + 50$$

$$C = 9 + 50$$

$$C = \mathbf{59}$$

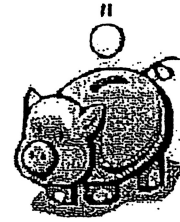
$$\text{rate} = \frac{\text{rise}}{\text{run}}$$

$$= \frac{\$100}{500 \text{ km}}$$

$$= \$0.20/\text{km}$$

$$\text{initial value} = \$50$$

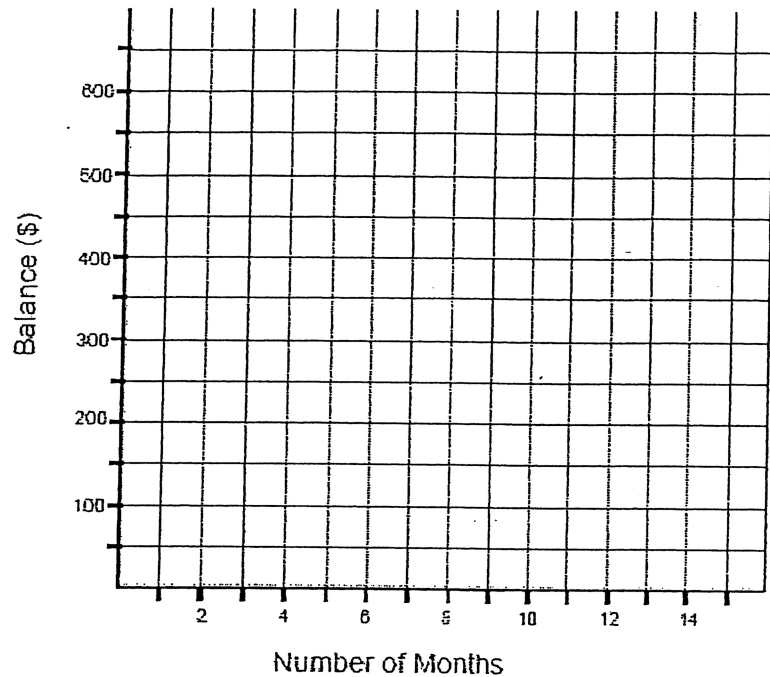
2. There is \$500 in Holly's bank account. She takes out \$50 from her account each month but doesn't put any back in.



- Make a table of values for up to 5 months.
- Graph the relationship.

| Time (months) | Balance (\$) |
|---------------|--------------|
| 0 | |
| 1 | |
| 2 | |
| 3 | |
| 4 | |
| 5 | |

Balance vs. Number of Months



c) Write an equation to model the relationship.

_____ = _____

d) Does this relation represent a partial or direct variation? Explain.

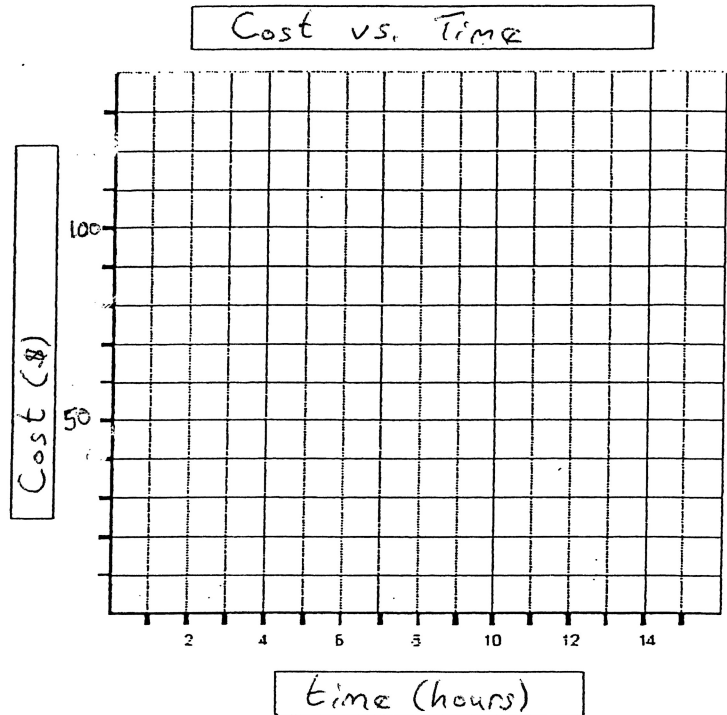
e) How much will Holly have in her account after 8 months? Show your work.

f) How many months will have passed when Holly has \$50 in her account? Show your work.

3. Nisha is just learning how to snowboard. White Mountain charges \$10/hour for lessons and \$40 for the lift ticket and snowboard rental.
- Make a table of values for up to 5 hours.
 - Graph the relationship.



| Time (hours) | Cost (\$) |
|--------------|-----------|
| 0 | |
| 1 | |
| 2 | |
| 3 | |
| 4 | |
| 5 | |



- c) Write an equation to model the relationship.

_____ = _____

- d) Does this relation represent a partial or direct variation? Explain.
- e) How much will it cost in total for Nisha to take 2.5 hours of lessons?
Show your work.
- f) If Nisha paid \$75, how long was she at the White Mountain getting lessons?
Show your work.