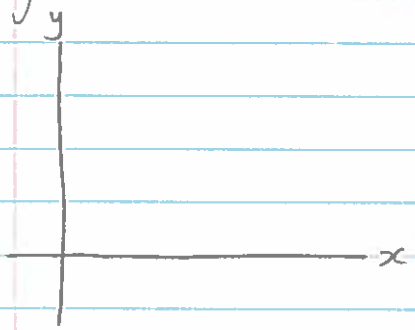
Unit 9: Linear Relations

A: Analysing Graphs.

→ Complete a table of values.
→ Describe a pattern of a graph by including:
1. where it starts
2. how it changes
3. what it relates to.

x-axis (horizontal)
y-axis (vertical)



Examples:

⇒ See Worksheet 9.1

Assignment Pg. 337 # 4 – 16.

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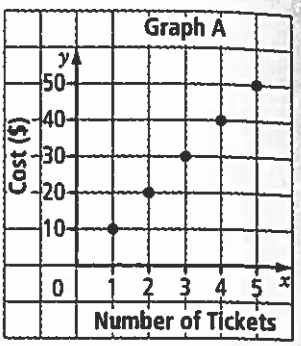
Name: _____ Date: _____

9.1 Analysing Graphs of Linear Relations

MathLinks 8, pages 332–341

Key Ideas Review

Use the graph at right to answer questions #1 to #4.



1. Complete a table of values for the graph.

2. Circle the three factors that should be included to describe the pattern on a graph.

a) where it starts b) how it changes c) slope of the line

d) *x*-axis and *y*-axis titles e) what it relates to

3. Does the graph above show a linear relation? How do you know?

_____

_____

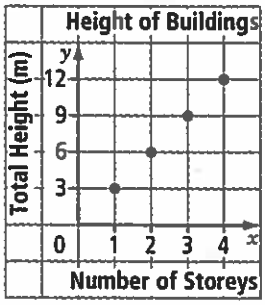
4. Does it make sense to have values between those on the graph? Explain.

_____

_____

Practise and Apply

5. Complete the sentences to describe the graph below.



a) The height of a one-storey building is 3 m, a 2-storey building is 6 m high, a three-storey building is 9 m,

b) The points appear to lie in a straight line. The line shows a linear relation.

c) The graph shows that to move from one point to the next, you go 1 unit horizontally, and 3 units vertically.

d) Complete the table of values for this graph.

							×3
	1	2	3	4	5	10	
	3	6	9	12	15	30	

6, 7, 8, 9, 10

18, 21, 24, 27, 30

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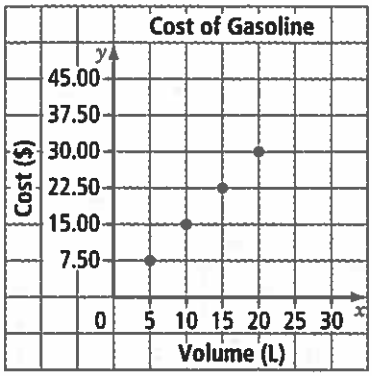
6. The graph shows the cost of gasoline based on the volume of gas.



a) Does the graph show a linear relation? Explain.

The points appear to lie in a straight line showing a linear relation.

b) The graph shows that for every five units horizontally, you go 7.5 units vertically.

c) Complete the table of values from the graph.

Volume (L)	Cost ($)
5	7.50
10	15.00
15	17.50
20	30.00

d) Would it be reasonable to include a point for 7 L? Explain.

Yes, gasoline will be sold at any volume.

e) What is the cost of gasoline per litre?

$\frac{\$7.50}{5} = \$1.50$

f) If the graph continued, what would be the cost of

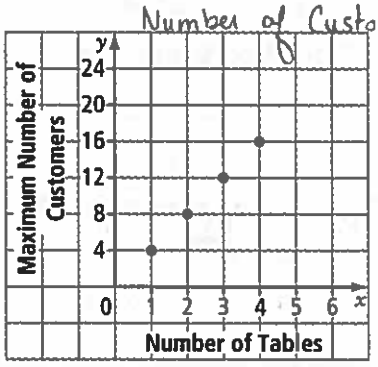
25 L?

$(\$1.50)(25) = \$37.50$

30 L?

$(\$1.50)(30) = \$45.00$

7. The graph shows the maximum number of customers based on the number of tables in the restaurant.



a) Title the graph.

b) Describe the patterns on the graph. Does the graph show a linear relation?

The points lie in a straight line showing a linear relationship. For every 1 unit horizontally you move 4 units vertically.

c) Complete the table of values for the graph.

# of Tables	1	2	3	4	5	6
# of max customers	4	8	12	16	20	24