Name: _____ Date: _____

9 Chapter Review

Key Words
For #1 to #5, fill in the blanks.
Unscramble the letters for each term to complete the sentence.

1. A pattern that creates points that lie in a straight line is called a _____ relation. EILRAN

2. A chart showing the relationship between 2 sets of numbers is called a

_____ _____ _____.

LEBTA FO SUAVLE

3. In the expression $5g - 2$, g is called a _____. ABEVIRAL

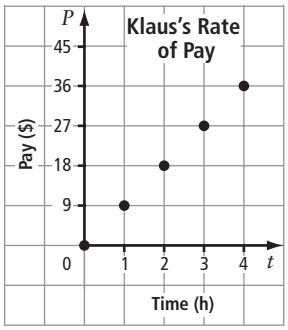
4. When 2 expressions are joined with an equal sign, you have an _____. QONATUIE

5. An equation that shows how 1 variable is related to another is called a

_____. MALUROF

9.1 Analysing Graphs of Linear Relations, pages 478–486

6. Klaus works after school. The graph shows his rate of pay.



a) Fill in the table of values.

x	*y*
0	
1	
2	
3	
4	

b) Does the graph represent a linear relation? Circle YES or NO. Give 1 reason for your answer.

_____

c) Is it possible to have other points between the ones on the graph? Circle YES or NO. Give 1 reason for your answer.

_____

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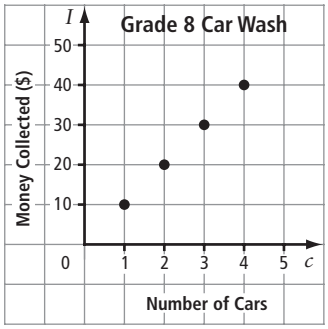
7. The graph shows the amount of money a grade 8 class made while doing a car wash fundraiser.



a) Using the graph, fill in the table of values.

Number of Cars	1	2	3	4
Money Collected ($)				

b) Describe the 2 patterns you see in the graph.

• The overall pattern: _____

• To move from 1 point to the next: _____

c) Write an expression that describes the amount of money collected after washing c cars.

_____

d) If the students wash 15 cars, how much money will they collect?

Amount collected = $10c$

= $10 \times$ _____

= _____

$10c = 10 \times c$

9.2 Patterns in a Table of Values, pages 488–497

8. **a)** Is this a linear relation?

A	***B***
0	0
1	7
2	14
3	21
4	28
5	35

The difference between consecutive A-values is _____.

(1 – 0 = _____, 2 – 1 = _____, 3 – 2 = _____)

The difference between consecutive B-values is _____.

(7 – 0 = _____, 14 – 7 = _____, 21 – 14 = _____)

The relation is _____, since the A-values change by the same amount and the B-values change by the same amount.

b) Write B in terms of A.

Words	**Ordered Pair**	**Expression**
B is _____ times A	(A, ☐ A)	☐ A

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9. The table of values shows a relation.

p	*Q*
1	5
2	8
3	10
4	13
5	15

a) Is this a linear relation?

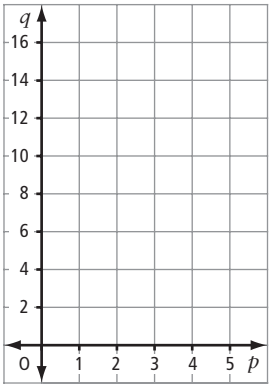
The difference between consecutive p-values is _____.

The difference between consecutive Q-values is _____.

The relation is _____, since

_____.

b) Graph the ordered pairs to check your answer.



10. A recreation centre charges $5 per person to use the gym.

a) Complete the table of values.

Number of People	3	5	7	9
Gym Charge				

b) Without graphing, explain if this is a linear relation or not.

_____

_____

c) Let n describe the number of people. Write an expression for the cost to use the gym.

_____

d) How much will it cost for 25 people to use the gym?

Sentence: _____

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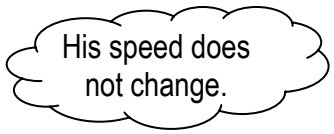
9.3 Linear Relationships, pages 499–506

11. Craig travels at a constant speed of 15 km/h. The formula $d = 15t$ describes the relationship.



a) What does each variable describe?

d describes the _____

t describes the _____

b) Make a table of values. Use 5 consecutive whole number values for t.

t	d
2	

Let $t = 2$

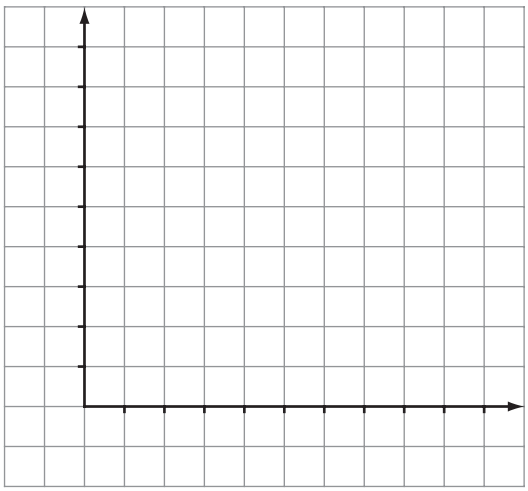
$d = 15t$

$d = 15(2)$

$d =$ _____

c) Graph your ordered pairs.

To draw a graph:
- ❒ Label each of the axes using t and d.
- ❒ Describe each axis.
- ❒ Mark the intervals on both axes.
- ❒ Give the graph a title.
- ❒ Plot the points.



d) Is it reasonable to have points between the ones on the graph? Circle YES or NO. Explain.

_____

_____

e) How far would Craig travel in 8 h?

Sentence: _____

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12. $y = 2x + 4$

a) Use 5 integers for x to complete this table of values (use positive and negative integers).

x	y
–2	

Let $y = -2$

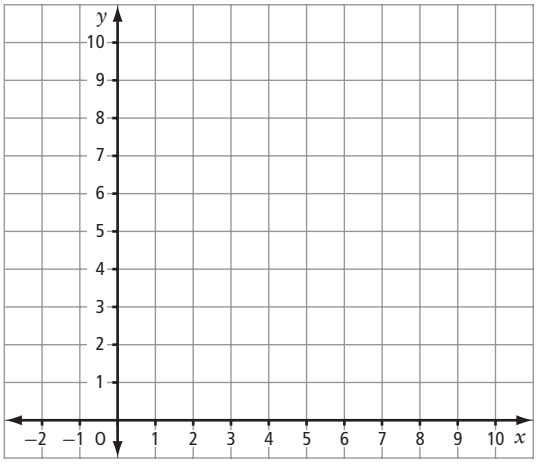
$y = 2x + 4$

$y = 2(-2) + 4$

$y =$ _____ $+ 4$

$y =$ _____

b) Graph the ordered pairs.



c) Find the value of y in the ordered pair $(2.5, y)$.

$y = 2x + 4$

$y = 2($_____$) + 4$ Substitute.

$y =$ _____ $+ 4$ Add.

$y =$ _____

d) Find the value of y in the ordered pair $(–6, y)$.