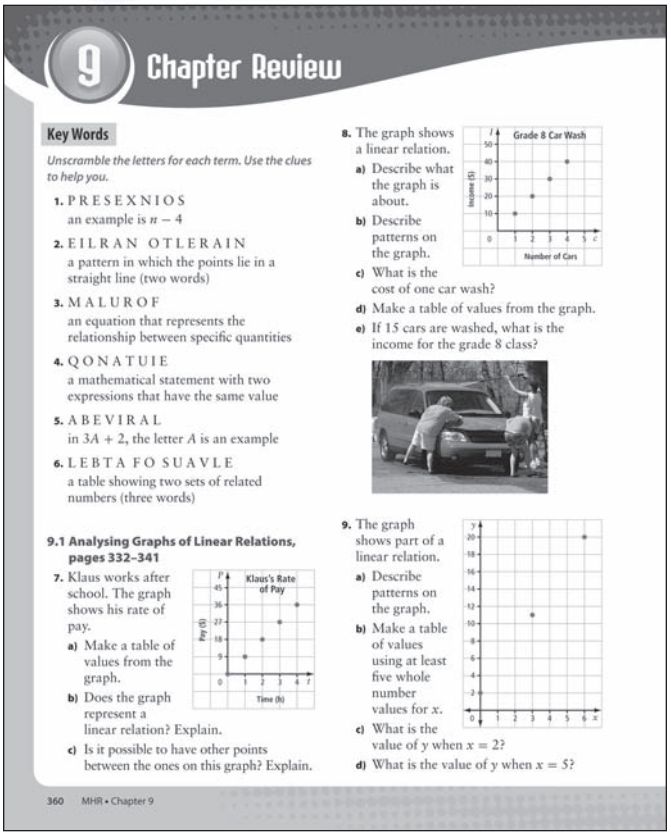
9 Chapter Review



9 Chapter Review

Key Words

Unscramble the letters for each term. Use the clues to help you.

1. PRESEXNIOS
an example is $n - 4$
2. EILRAN OTLERAIN
a pattern in which the points lie in a straight line (two words)
3. MALUROF
an equation that represents the relationship between specific quantities
4. QONATUIE
a mathematical statement with two expressions that have the same value
5. ABEVIRAL
in $3A + 2$, the letter A is an example
6. LEBTA FO SUAVLE
a table showing two sets of related numbers (three words)

9.1 Analysing Graphs of Linear Relations, pages 332–341

7. Klaus works after school. The graph shows his rate of pay.
   a) Make a table of values from the graph.
   b) Does the graph represent a linear relation? Explain.
   c) Is it possible to have other points between the ones on this graph? Explain.

Klaus's Rate of Pay

8. The graph shows a linear relation.
   a) Describe what the graph is about.
   b) Describe patterns on the graph.
   c) What is the cost of one car wash?
   d) Make a table of values from the graph.
   e) If 15 cars are washed, what is the income for the grade 8 class?

Grade 8 Car Wash

9. The graph shows part of a linear relation.
   a) Describe patterns on the graph.
   b) Make a table of values using at least five whole number values for x.
   c) What is the value of y when $x = 2$?
   d) What is the value of y when $x = 5$?

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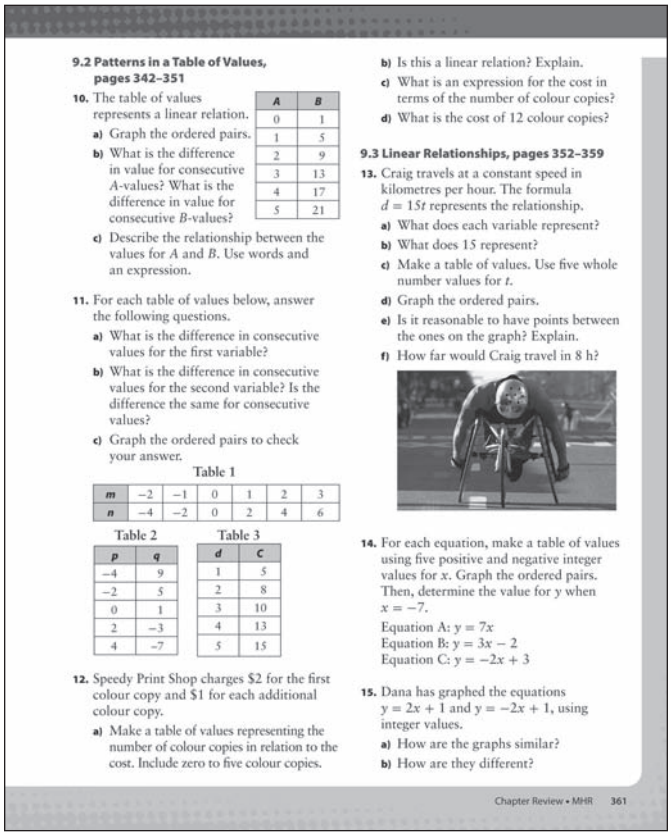

9.2 Patterns in a Table of Values, pages 342–351

10. The table of values represents a linear relation.

A	B
0	1
1	5
2	9
3	13
4	17
5	21

   a) Graph the ordered pairs.
   b) What is the difference in value for consecutive A-values? What is the difference in value for consecutive B-values?
   c) Describe the relationship between the values for A and B. Use words and an expression.

11. For each table of values below, answer the following questions.
   a) What is the difference in consecutive values for the first variable?
   b) What is the difference in consecutive values for the second variable? Is the difference the same for consecutive values?
   c) Graph the ordered pairs to check your answer.

Table 1

m	−2	−1	0	1	2	3
n	−4	−2	0	2	4	6

Table 2

p	q
−4	9
−2	5
0	1
2	−3
4	−7

Table 3

d	c
1	5
2	8
3	10
4	13
5	15

12. Speedy Print Shop charges $2 for the first colour copy and $1 for each additional colour copy.
   a) Make a table of values representing the number of colour copies in relation to the cost. Include zero to five colour copies.
   b) Is this a linear relation? Explain.
   c) What is an expression for the cost in terms of the number of colour copies?
   d) What is the cost of 12 colour copies?

9.3 Linear Relationships, pages 352–359

13. Craig travels at a constant speed in kilometres per hour. The formula $d = 15t$ represents the relationship.
   a) What does each variable represent?
   b) What does 15 represent?
   c) Make a table of values. Use five whole number values for t.
   d) Graph the ordered pairs.
   e) Is it reasonable to have points between the ones on the graph? Explain.
   f) How far would Craig travel in 8 h?

14. For each equation, make a table of values using five positive and negative integer values for x. Graph the ordered pairs. Then, determine the value for y when $x = -7$.
   Equation A: $y = 7x$
   Equation B: $y = 3x - 2$
   Equation C: $y = -2x + 3$

15. Dana has graphed the equations $y = 2x + 1$ and $y = -2x + 1$, using integer values.
   a) How are the graphs similar?
   b) How are they different?

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***MathLinks 8*, pages 360–361**

Suggested Timing
40–50 minutes

Materials
- grid paper
- ruler

Blackline Masters
Master 8 Centimetre Grid Paper
Master 9 0.5 Centimetre Grid Paper
BLM 9–5 Section 9.1 Extra Practice
BLM 9–7 Section 9.2 Extra Practice
BLM 9–9 Section 9.3 Extra Practice

Planning Notes

Allow students to work in pairs for #1 to #6. Then, have students complete the remaining questions independently or in pairs. When they are done, have students make a list of questions they found difficult. Provide an opportunity to discuss these questions and have students share with each other alternative strategies for answering them. Also, encourage students to refer to their Foldable or look up examples and other exercises related to the questions on their list. Students can use this list to focus their studying as they prepare for the practice test.

For drawing their graphs, provide students with **Master 8 Centimetre Grid Paper** or **Master 9 0.5 Centimetre Grid Paper**.

Meeting Student Needs

- Allow students to complete the chapter review using a combination of verbal description, graphs, and written answers.
- Encourage students to use their chapter Foldable and to add new notes if they wish.
- Students who require more practice on a particular topic may refer to **BLM 9–5 Section 9.1 Extra Practice**, **BLM 9–7 Section 9.2 Extra Practice**, and **BLM 9–9 Section 9.3 Extra Practice**.

ELL

- Encourage students to work with a partner and practise the Key Words using flash cards.

Gifted and Enrichment

- Some students may already be familiar with the skills handled in this review. To provide enrichment and extra challenge, go to www.mathlinks8.ca and follow the links.

Assessment	Supporting Learning
Assessment *for* Learning	
Chapter 9 Review The Chapter 9 Review is an opportunity for students to assess themselves by completing selected questions in each section and checking their answers against the answers in the back of the student resource.	• Lead a brief discussion on what students recall about linear relations from Chapter 9. Encourage students to refer to their Foldable or to the Key Ideas in the student resource. • Have students check the contents of the What I Need to Work On section of their chapter Foldable and do at least one question related to each listed item. • Have students revisit any section that they are having difficulty with prior to working on the chapter test.