Chapter Review 6

Chapter 6 Review

Key Words

For #1 to #5, unscramble the letters for each term. Use the clues to help you.

1. R A N E I L R A I N E T L O
a pattern made by a set of points that lie in a straight line when graphed

2. P L E X A T R O T E A
estimate values beyond known data

3. T S T O N C A N
in $y = 4x + 3$, the number 3 is an example

4. E L I N A R Q U E I O N A T
an equation that relates two variables in such a way that the pattern forms a straight line when graphed

5. T R I P O L E N E A T
estimate values between known data

6.1 Representing Patterns, pages 210–219

6. a) Make a table of values for the toothpick pattern.

b) Describe the pattern.
c) Develop an equation relating the number of toothpicks to the figure number.
d) How many toothpicks are in Figure 10? Verify your answer.
e) How do the numerical values in the equation represent the pattern?

7. Derek has $56 in his bank account. He plans to deposit $15 every week for a year.
a) Create a table of values for his first five deposits.
b) What equation models this situation?
c) How much money will Derek have in his account after 35 weeks?
d) How long will it take him to save $500?

8. Taylor works at a shoe store. She makes $50 per day plus $2 for every pair of shoes she sells.
a) Create a table of values to show how much she would earn for selling up to ten pairs of shoes in one day.
b) Develop an equation to model this situation.
c) How much money will Taylor make in a day if she sells 12 pairs of shoes? Use two methods for solving the problem.

6.2 Interpreting Graphs, pages 220–230

9. Many tree planters are paid according to how many trees they plant. The following graph shows the daily wages earned at a rate of $0.09 per tree planted.

a) Approximately how much would a tree planter who planted 750 trees earn in one day?
b) In order to earn $250 in one day, approximately how many trees would a planter need to plant?

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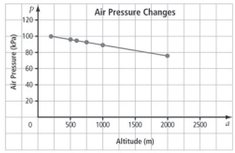
10. The graph shows the relationship between air pressure, in kilopascals, and altitude, in metres.



a) What is the approximate air pressure at an altitude of 1500 m? 2400 m?
b) Approximately at what altitude is the air pressure 90 kPa? 60 kPa?
c) Does it make sense to interpolate or extrapolate values on this graph? Explain.

11. There are 15 schools in an urban school district. The table shows data about the student and teacher populations for eight of the schools.

Students	100	250	300	450	700	150	1025	650
Teachers	9	15	17	23	33	11	46	31

a) Graph the relationship between the number of students and teachers.
b) How many teachers might be in a school that has 850 students? 1200 students?
c) How many students might attend a school that employs 30 teachers? 50 teachers?

6.3 Graphing Linear Relations, pages 231–243

12. The cost of renting a snowboard can be calculated using the equation $C = 40 + 20d$, where C is the rental cost, in dollars, and d is the number of rental days.
a) Graph the linear relation for the first five days.
b) From the graph, what is the approximate cost of renting the snowboard for one day? seven days?
c) If buying a snowboard costs $300, use your graph to approximate how many days you could rent a board before it becomes cheaper to buy it.
d) Describe another method you could use to solve parts b) and c).

13. Graph the linear relation represented in the table of values.

Time (h)	Distance (km)
0.5	52.5
1.0	105.0
1.5	157.5
2.0	210.0
2.5	262.5
3.0	315.0
3.5	367.5
4.0	420.0

a) Describe a situation that might lead to these data.
b) Develop a linear equation to model the data.
c) What do the numerical coefficients and constants in the equation tell you?

14. A parking lot charges a flat rate of $3.00 and $1.75 for each hour or part of an hour of parking.
a) Create a table of values for the first 8 h of parking.
b) Graph the linear relation.
c) Use the graph to approximate how much it would cost to park for 4 h.
d) Using the graph, approximately how long could you park if you had $15.25?
e) What equation models this situation?

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***MathLinks 9*, pages 244–245**

Suggested Timing
40–50 minutes

Materials
- grid paper
- ruler

Blackline Masters
Master 8 Centimetre Grid Paper
Master 9 0.5 Centimetre Grid Paper
BLM 6–5 Section 6.1 Extra Practice
BLM 6–7 Section 6.2 Extra Practice
BLM 6–10 Section 6.3 Extra Practice

Planning Notes

Have students work individually. Make copies of **Master 8 Centimetre Grid Paper** and **Master 9 0.5 Centimetre Grid Paper** available for students to draw graphs for #11 to 14.

If students encounter difficulties, provide an opportunity for them to discuss strategies with a classmate. Remind them to refer to their Foldable, their worked exercises for the section, or the modelled examples in the appropriate section of the student resource.

When they are done, have students make a list of questions they found difficult. They can use the list to help them prepare for the practice test. Consider discussing the questions that present difficulties to a significant number of students. Encourage students who successfully answered those questions to share their strategies and their solutions.

Meeting Student Needs

- Allow students to complete the chapter review using a combination of oral responses, written responses, and diagrams.
- Encourage students to use their Foldable and to add new notes if they wish.
- Consider allowing students to use spreadsheet software or a graphing calculator.
- Students who require more practice on a particular topic may refer to **BLM 6–5 Section 6.1 Extra Practice**, **BLM 6–7 Section 6.2 Extra Practice**, and **BLM 6–10 Section 6.3 Extra Practice**.

ELL

- Ensure that students understand any terms that may be unfamiliar such as *deposit* and *snowboarding*.

Gifted and Enrichment

- Some students may already be familiar with the skills handled in this review. To provide enrichment and extra challenge for gifted students, go to www.mathlinks9.ca and follow the links.

Common Errors

- Some students may work so quickly that their graphs are incomplete or inaccurate.

R_x Remind students to take time and check their graphs for completeness and accuracy.

Assessment	Supporting Learning
Assessment *for* Learning	
Chapter 6 Review The Chapter 6 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.	• Have students check the contents of the What I Need to Work On section of their Foldable and section 6.3 Math Learning Log 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.