Review

Pg 70/71 Q# 1-5, 8, 9, 11, 14, 15, 18

Ratios

A) Part-to-Part B) Part-to-Whole → can be a %

* Can be shown in 3 ways:
  1) 2 : 3
  2) 2 to 3
  3) $\frac{2}{3}$ (only 2 part ratios)

(Show in order mentioned.)

* Show a set relationship: (Proportional)

✓ x x
✓ x x
✓ x x

} 3 : 6 = 1 : 2

Rate

* Measurement using 2 different units (e.g. HR = 72 beats/min)
  - ↳ Demonstrate a set relationship: (Proportional) $10/hr for 3h = 3 × 10 = $30

* $10/hr is a unit rate because the hour is 1.

You can use Proportional Reasoning to solve Rate & Ratio Questions:

$$\frac{\$10}{1hr} = \frac{\$45}{x hr}$$

1) Make sure they are in same units
2) Line up same units 2 : 1 = x : 5
3) Cross Multiply
4) Isolate the unknown $\frac{2}{1} = \frac{x}{5}$

$$\frac{\$10 \times x hr}{\$10} = \frac{\$45 \times 1hr}{\$10}$$

Will Isolate the x hr →

$x hr = 45 \div 10$ → 4.5hr

2 Chapter Review

Key Words

For #1 to #5, choose the letter representing the example that best matches each term.

1. proportion

2. ratio

3. three-term ratio

4. unit price

5. unit rate

A \$2.75 per tin

B $\frac{3}{5}$

C 5 students

D $\frac{7}{50} = \frac{14}{100}$

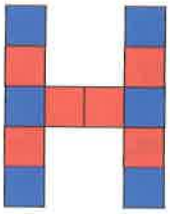
E 4:3:2

F 120 km in 2 h

G 27 km/h

2.1 Two-Term and Three-Term Ratios, pages 46–54

6. Use the square tile pattern to find each of the following:



a) ratio of red squares to blue squares

b) blue squares : total squares

c) two equivalent ratios for the answer in part b)

d) percent of squares that are red

7. Look at the figure.

a) What is the ratio of two-digit numbers in the red hexagon compared to the total number of two-digit numbers?

b) Express the answer in part a) as a fraction in lowest terms.

c) What is the ratio of two-digit numbers containing a 2 compared to the number of two-digit numbers in the red hexagon that contain a 2?

8. Stephanie counted 20 vehicles in a parking lot. Of these, five were silver, four were blue, two were red, and one was yellow.

a) What is the ratio of yellow to red to silver vehicles?

b) How many vehicles were not silver, blue, red, or yellow?

c) What could the ratio 4 to 20 represent?

d) What could 5 : 8 represent?

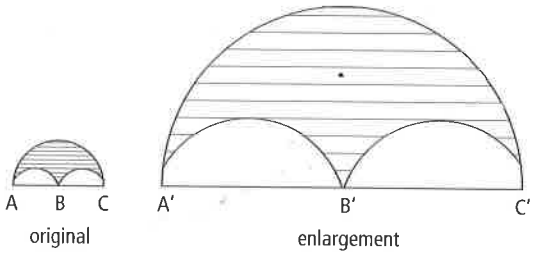
e) Express the ratio of silver to total vehicles as a fraction and as a percent.

9. A football team won 10 of its 18 games and lost the rest.

a) How many games did the team lose?

b) What is the team's win–loss ratio?

10. Jan made the following enlargement.



a) What is the ratio of the length of A′B′ to the length of AB? Measure in millimetres.

b) What is the ratio of the length of A′C′ to AC?

c) What is the multiplier used in this enlargement?

2.2 Rates, pages 55–62

11. Determine a unit rate in each situation.

a) Steven runs up 300 steps in 6 min.

b) \$3.60 is the price of 4 L of milk.

c) A jet travels 2184 km in 3.5 h.

d) A polar bear gains 450 kg in nine years.

12. Transportation increases the cost of groceries in Northern communities. Use the data about the cost of grocery items in Winnipeg and Little Grand Rapids to answer the questions.

Item	Cost in Winnipeg	Cost in Little Grand Rapids
3 kg bananas	$4.98	$13.95
Mini ravioli (720 mL)	$2.29	$5.49
Milk (1 L)	$1.39	$4.09

a) Give an example of a ratio.

b) Give an example of a rate.

c) What is the unit price for bananas in Winnipeg? in Little Grand Rapids? What is the difference in unit price for the two communities?

13. The table compares the typical monthly cost of electricity for several appliances.

Appliance	Time On (h)	Monthly Cost ($)
Fridge	240	12.11
Computer and monitor	120	4.26
Television	180	3.46
Treadmill	15	3.99

a) What is the hourly unit cost for each appliance? Give each answer to the nearest tenth of a cent.

b) Which appliance has the lowest rate of electricity consumption?

14. Shelly rode her mountain bike at a rate of 30 km/h for 2.5 h. Josh rode his mountain bike at a rate of 35 km/h for 1 h and then slowed down to 25 km/h for 1.5 h.

a) Who travelled farther in 2.5 h?

b) What is the difference in the distance travelled by the cyclists?

2.3 Proportional Reasoning, pages 63–69

15. Determine the missing value if each rate is equivalent. Give the unit for each.

a) $\frac{\blacksquare}{1 \text{ month}} = \frac{64 \text{ kg}}{4 \text{ months}}$

b) $\frac{\$84}{800 \text{ km}} = \frac{\blacksquare}{100 \text{ km}}$

c) $\frac{80 \text{ beats}}{2 \text{ min}} = \frac{720 \text{ beats}}{\blacksquare}$

16. Use a proportion to solve each question. Use a variable for the unknown quantity.

a) Three bars of soap cost $2.94. What is the cost of eight bars of soap?

b) On a map, 1 cm represents 150 km. On the map, how many centimetres represent a distance of 800 km?

17. A mass of 5 g stretches a rubber band by 15 mm. If the rubber band stretches at the same rate, find the following.

a) How much would a mass of 28 g stretch the rubber band? Give your answer to the nearest hundredth of a centimetre.

b) What mass would stretch a rubber band 32 mm?

c) What mass would stretch a rubber band 9.9 cm? Give your answer to the nearest tenth of a gram.

18. The height of an object compared to the length of its shadow is constant for all objects at any given time. Use this information and a drawing to help answer the following questions.

a) If a 20-m tower casts a 12-m shadow, what is the height of a tree with a shadow 3 m long?

b) If a 25-m building has a shadow 8 m long, how long is the shadow of a student who is 1.6 m tall? Give your answer to the nearest centimetre.