2.2

Rates

MathLinks 8, pages 55-62

Key Ideas Review

1. Unscramble the letters to form a word in each blank to complete the statement.

a) A rate is a comparison of two quantities measured in _______
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units.

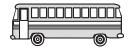
b) A rate can be expressed as a _______, but cannot be expressed as a _______, but cannot be

c) A unit rate is a rate in which the second term is ______.

d) To compare the cost of similar items a unit ______ is useful. EPCIR

Practise and Apply

- **2.** Determine the unit rate. Show your thinking.
 - a) Riding 50 km in 3 h. Round your answer to the nearest hundredth.
 - **b)** Typing 660 words in 10 minutes.
 - c) Moving 216 students in 4 buses.



- d) Carrying 138 apples in 6 bags.
- e) Raising \$315 in 35 h.
- f) Driving 220 km in $2\frac{1}{2}$ h.

- **3.** Calculate the unit rate for each situation. Show your thinking. Then, circle the greater rate for each pair.
 - a) \$210 for 30 h or \$198 for 20 h
 - **b)** 574 km in 7 h or 420 km in 5 h
 - c) 64 h of sunlight in 16 days or69 h sunlight in 23 days
- 4. The Mitchells' car used half a tank of gas when travelling from Edmonton to Calgary, a trip of about 300 km. If the fuel tank's capacity is 54 L, what was the car's fuel consumption rate in L/100 km?

Date: _____

5. You are shopping for yogurt.



- a) What is the unit price for each container of yogurt?
- b) What is the unit price per 100 g for each container of yogurt?

c)	Which container is the best buy?
	Explain your thinking.

- **6.** Jeremy earned \$1365 after working for half of a year. He expects to continue working for the same number of hours each month, at the same pay rate.
 - a) How much will he earn in total after working for a year? Show two different ways of arriving at the answer.
 - **b)** If he works 10 hours a week, what is his hourly rate of pay? Show your thinking.

7. This table lists the approximate area and population of five countries.

Country	Population	Land Area (km²)	Density
Canada	31 006 000	9 220 000	
Ecuador	12 562 000	278 000	
France	58 978 000	546 000	
Nether- lands	15 808 000	34 000	
United States	272 640 000	9 159 000	

a) Calculate the population density (population/km²) for each country listed. Show your thinking below, then record the values in the table rounded to the nearest hundredth.

b) List the countries in order from greatest density to least density.

c) Is population density a rate? Yes No Explain.