

Warm Up Grade 8

Lesson 5

1. On April 2, 2020 Chris can exchange 1 Euro for \$1.54 (Canadian money). How many Canadian dollars would Chris get for ~~20~~ 20 Euros?

$$\begin{array}{r} \$1.54 / 1 \text{ Euro} \\ \times 20 \qquad \qquad \qquad \times 20 \\ \hline \$30.80 / 20 \text{ Euros} \end{array}$$

Chris would get \$30.80 for 20 euros.

Page 303-305 #5ab, #6, #7, #8, #11a,

#5 $\$399 / 3 \text{ week}$ $\div 3 = \$133 / \text{week}$ \star b) $680 \text{ km} / 8 \text{ h}$ $\div 8 = 85 \text{ km/hr}$

c) $\$3.49 / 12 \text{ bottles}$ $\div 12 = \$0.29 / \text{bottle}$

d) $\$0.99 / 3 \text{ cans}$ $\div 3 = \$0.33 / \text{can}$

\star a) $\$24 / 3 \text{ hr}$ $\div 3 = \$8 / \text{hr}$ or $\$36 / 4 \text{ h}$ $\div 4 = \$9 / \text{h}$

greater

\star b) $\$4.50 / 6 \text{ muff}$ $\times 2 = \$9.00 / 12 \text{ muff}$ greater Rate

or $\$6 \text{ for } / \text{ doz}$ $\$6 \text{ for } 12 \text{ muff}$ Better deal

\star c) $0.99 / 250 \text{ mL}$ $\times 4 = \$3.96 / 1000 \text{ mL}$ $3.96 / 1 \text{ L}$ greater

$3.49 / 1 \text{ L}$

Better deal

\star 7) a) $1.49 / 110 \text{ mL}$ $\div 110 = \$0.0135 / \text{mL}$

b) $\$4.29 / 500 \text{ mL}$ $\div 500 = 0.00858 / \text{mL}$

d) cheaper \uparrow better deal

\star b) Might only need a small quantity

Page 303-305

#5ab, #6, #7, #8, #11a,

★ 8) \$ 1.99 / 5 g of or 2.99 / 8 g of
Estim Estimo
\$ 16 / 40 \$ 15 / 40
Better deal

★ 11a) Petra \$ 370 for 40h
÷40 ÷40
\$9.25 / hour

11a) Giorgos \$ 315 for 35h
÷35 ÷35
\$9.00 / hour

Petra gets paid more

Comparing Rates

You can compare rates the same way that you compare ratios;

- Find the unit rate
- or find equivalent rates which have 1 of the terms the same.

HINT: most rates have money written as term 1

Example:

Which is a better deal?

A - 2 apples for \$0.68

or B- 8 apples for \$2.60

$\div 8$ $\div 8$

- find the unit rate

A 1 apple for \$0.34

1 apple for \$0.325

B is a better deal

Or

- change both to the cost for 8 apples

A - 8 apples (0.68×4)

= \$2.72 for 8 apples

Class/Homework

Page 311

#27, #28, #32, #34,

LESSON

- 26.** A punch recipe calls for orange juice and pop in the ratio of 2:5. The recipe requires 1 L of pop to serve 7 people.
- How much orange juice is needed for 7 people?
 - About how much orange juice and pop do you need to serve 15 people? 20 people? Justify your answers.

5.9

- 27.** Express as a unit rate.
- A bus travelled 120 km in 3 h.
 - An athlete ran 1500 m in 6 min.
 - A security guard earned \$16.00 for 2 h of work.
- 28.** A cougar can run 312 m in 20 s. A wild horse can run 200 m in 15 s.
- Which animal is faster?
 - What is the ratio of their average speeds?
- 29.** Write each speed in metres per second.
- The dolphin can swim at a top speed of 60 km/h.

- 30.** Milena worked in the gift shop of the Costume Museum of Canada in downtown Winnipeg. She was paid \$57 for a 6-h shift.
- What was Milena's hourly rate of pay?
 - How much would Milena earn for 25 h of work?

5.10

- 31.** a) Find the unit cost of each item.
- 4 L of milk for \$4.29
 - 2.4 kg of beef for \$10.72
 - 454 g of margarine for \$1.99
- b) For each item in part a, which unit did you choose? Justify your choice.
- 32.** Which is the better buy? Justify each answer.
- 6.2 L of gas for \$5.39 or 8.5 L of gas for \$7.31
 - 5 candles for \$3.00 or 12 candles for \$5.99
 - 2 kg of grass seed for \$1.38 or 5 kg of grass seed for \$2.79

- 34.** Each week, Aaron earns \$186 for 24 h of work as a ticket seller. Kayla earns \$225 for 30 h of work as a cashier. Which job pays more? How did you find out?

Page 311

solutions

#27, #28, #32, #34,

5.9

27. Express as a unit rate.

- a) A bus travelled 120 km in 3 h.
- b) An athlete ran 1500 m in 6 min.
- c) A security guard earned \$16.00 for 2 h of work.

$\begin{array}{r} \text{a) } 120 \text{ km} / 3 \text{ hr} \\ \div 3 \qquad \qquad \div 3 \\ \hline 40 \text{ km} / \text{hr} \end{array}$	$\begin{array}{r} \text{b) } 1500 \text{ m} / 6 \text{ min} \\ \div 6 \qquad \qquad \div 6 \\ \hline 250 \text{ m} / \text{min} \end{array}$	$\begin{array}{r} \text{c) } \$16.00 / 2 \text{ hr} \\ \div 2 \qquad \qquad \div 2 \\ \hline \$8.00 / \text{hr} \end{array}$
--	--	--

28. A cougar can run 312 m in 20 s.

A wild horse can run 200 m in 15 s.

- a) Which animal is faster?
- b) What is the ratio of their average speeds? average speed is their unit speed

<p>a/b) Cougar</p> $\begin{array}{r} 312 \text{ m} / 20 \text{ s} \\ \div 20 \qquad \qquad \div 20 \\ \hline 15.6 \text{ m} / \text{s} \end{array}$ <p style="color: red; text-align: center;">Faster</p>	<p>Horse</p> $\begin{array}{r} 200 \text{ m} / 15 \text{ s} \\ \div 15 \qquad \qquad \div 15 \\ \hline 13.3 \text{ m} / \text{s} \end{array}$
---	---

solutions

#27, #28, #32, #34,

32. Which is the better buy? Justify each answer.

a) 6.2 L of gas for \$5.39 or 8.5 L of gas for \$7.31

b) 5 candles for \$3.00 or 12 candles for \$5.99

c) 2 kg of grass seed for \$1.38 or 5 kg of grass seed for \$2.79

a) \$5.39 / 6.2L	\$7.31 / 8.5L
$\div 6.2$	$\div 8.5$
\$0.82 / L	\$0.86 / L
Cheaper	More expensive

b) \$3.00 / 5 candles	\$5.99 / 12 candles
$\div 5$	$\div 12$
\$0.60 / candle	\$0.50 / candle
More expensive	Cheaper

c) \$1.38 / 2 kg	\$2.79 / 5kg
$\div 2$	$\div 5$
\$0.69 / kg	\$0.59 / kg
More expensive	Cheaper

34. Each week, Aaron earns \$186 for 24 h of work as a ticket seller. Kayla earns \$225 for 30 h of work as a cashier. Which job pays more? How did you find out?

Aaron	Kayla
\$186 / 24 hr	\$225 / 30 hr
$\div 24$	$\div 30$
\$7.75 / hr	\$7.50 / hr

Arron's job pays more and I found out by comparing how much money then make in 1 hr.