

## CH 1 Review

### Multiple Choice

Identify the choice that best completes the statement or answers the question.

\_\_\_\_\_ 1. Samir can type 85 words per minute. How long will it take him to type 2800 words? Round to the nearest minute.

- |               |               |
|---------------|---------------|
| a. 27 minutes | c. 33 minutes |
| b. 41 minutes | d. 40 minutes |

\_\_\_\_\_ 2. If 4 cans of paint cover 192 m<sup>2</sup> of wall space, how many cans of paint will you need to cover 270 m<sup>2</sup>?

- |                    |                    |
|--------------------|--------------------|
| a. 6 cans of paint | c. 9 cans of paint |
| b. 5 cans of paint | d. 3 cans of paint |

\_\_\_\_\_ 3. Which price is the best deal?

- i) 12 pens for \$15.64
- ii) 8 pens for \$10.92
- iii) 3 pens for \$3.75
- iv) 2 pens for \$2.90

- |       |        |
|-------|--------|
| a. i  | c. iii |
| b. ii | d. iv  |

\_\_\_\_\_ 4. Iona buys a new home gym for \$2075.00. Calculate the PST and GST if she lives in Saskatchewan.

Tax Rates		
	PST	GST
Alberta	0%	5%
British Columbia	HST 12%	
Manitoba	7%	5%
Northwest Territories	0%	5%
Nunavut	0%	5%
Saskatchewan	5%	5%
Yukon	0%	5%

- |                               |                               |
|-------------------------------|-------------------------------|
| a. \$103.75 GST, \$103.75 PST | c. \$103.75 GST, \$145.25 PST |
| b. \$145.25 GST, \$103.75 PST | d. \$103.75 GST, \$0.00 PST   |

Name: \_\_\_\_\_

ID: A

\_\_\_\_\_ 5. What would you have to pay for a new pair of jeans that cost \$34.24 if you live in Yellowknife, NWT, where the only tax is 5% GST?

- a. \$39.55
- b. \$35.95
- c. \$43.14
- d. \$28.76

\_\_\_\_\_ 6. The retail price of a snowblower is \$617.40. The wholesale price was \$420.00. What is the percent markup?

- a. 42%
- b. 47%
- c. 52%
- d. 57%

\_\_\_\_\_ 7. Calculate the sale price of a table set that regularly sells for \$1439.00 and is on sale for 15% off.

- a. \$1654.85
- b. \$1223.15
- c. \$1712.41
- d. \$978.52

\_\_\_\_\_ 8. The regular price of honey ham at a the grocery deli is \$2.39/100 g. If the ham is on sale for 25% off, what is the cost of 275 g?

- a. \$6.16
- b. \$3.70
- c. \$6.23
- d. \$4.93

**Short Answer**

1. The ratio of Grant's weight to Gregory's weight is 6:7. If Gregory weighs 115 kg, how much does Grant weigh?

Name: \_\_\_\_\_

ID: A

2. Some computer monitors have an aspect ratio of 4:3. This means that for every 4 inches of width, the monitor is 3 inches high. Calculate the width of a monitor that is 24 inches high.

3. High End Games video game store makes a profit of \$1475.00 on the sale of 220 games. How much profit would the store make on the sale of 150 games?

4. The ratio of George's weight to Tia's weight is 6:5. If George weighs 45 kg, how much does Tia weigh?

5. Soraya is a contractor renovating a house. She bought 15 hinges costing \$288.60 to install new doors. How much did each hinge cost?

6. The cost of buying door handles at a wholesaler depends on the number you buy:

If you buy fewer than 5 handles, they cost the regular price of \$2.59.

If you buy 6 to 10 handles, you get a discount of 6%.

If you buy 11 to 20 handles, you get a discount of 12%.

Calculate how much it would cost to buy 7 door handles in Saskatchewan, where PST is 5% and GST is 5%.

Name: \_\_\_\_\_

ID: A

7. Mireille is a home electronics installer. She is ordering speaker wire for an upcoming project. She can order 8.6 m for \$31.22 or 15.2 m for \$53.81. Calculate the unit price for each option. Which is the better deal?

### Problem

1. Lawrence is a nurse. He needs to measure and administer the correct dose of medicine to his patients. 125 mg of medicine must be dissolved into 300 mL of water. If the patient requires a dose of 500 mg of medicine, how much water is needed? Round to the nearest millilitre.

2. To produce a certain shade of green paint, a painter must mix 5 parts yellow paint with 7 parts blue paint. If the painter requires 4 litres of green paint, how much yellow and blue paint does he need? Round your answer to 1 decimal place.

3. Three grocery stores have advertised their price for packages of pork chops:

Store A	\$3.25/500 g
Store B	\$5.85/kg
Store C	\$11.38/2 kg

- a) What is the unit price of pork chops at each store, per gram? Give your answer to 4 decimal places.

- b) What is the cheapest way to purchase 3.5 kg without any wasted meat?

2. ANS: Set up a proportion to solve for x, the width of the monitor.

$$\frac{4}{3} = \frac{x}{24}$$

$$24 \times \frac{4}{3} = \frac{x}{24} \times 24$$

$$24 \times \frac{4}{3} = x$$

$$32 = x$$

The computer monitor will be 32 inches wide.

- PTS: 1 DIF: Easy REF: 1.1 OBJ: Number  
 LOC: N-SO1 TOP: Proportional Reasoning KEY: Ratio

3. ANS: Calculate High End Games's profit per game.  
 $\$1475.00 + 220 = \$6.70$

The store makes a profit of \$6.70 per game.

Calculate the profit on the sale of 150 games.  
 $\$6.70 \times 150 = \$1005.68$

High End Games makes a profit of \$1005.68 on the sale of 150 games.

- PTS: 1 DIF: Easy REF: 1.1 OBJ: Number  
 LOC: N-SO1 TOP: Proportional Reasoning KEY: Ratio

4. ANS: Set up a proportion to solve for x, Tia's weight.

$$\frac{6}{5} = \frac{45}{x}$$

$$x \times 5 \times \frac{6}{5} = \frac{45}{x} \times 5 \times x$$

$$6x = 45 \times 5$$

$$x = \frac{45 \times 5}{6}$$

$$x = 37.5$$

Tia weighs 37.5 kg.

- PTS: 1 DIF: Easy REF: 1.1 OBJ: Number  
 LOC: N-SO1 TOP: Proportional Reasoning KEY: Ratio

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 Answer Section

MULTIPLE CHOICE

1. ANS: C PTS: 1 DIF: Easy REF: 1.1  
 OBJ: Number LOC: N-SO1 TOP: Proportional Reasoning  
 KEY: Rate
2. ANS: A PTS: 1 DIF: Moderate REF: 1.1  
 OBJ: Number LOC: N-SO1 TOP: Proportional Reasoning  
 KEY: Ratio
3. ANS: C PTS: 1 DIF: Easy REF: 1.2  
 OBJ: Number LOC: N-SO1 TOP: Unit Price  
 ANS: A PTS: 1 DIF: Easy REF: 1.3  
 OBJ: Number LOC: N-SO1 TOP: Setting a Price  
 KEY: Tax
5. ANS: B PTS: 1 DIF: Easy REF: 1.3  
 OBJ: Number LOC: N-SO1 TOP: Setting a Price  
 KEY: Tax
6. ANS: B PTS: 1 DIF: Moderate REF: 1.3  
 OBJ: Number LOC: N-SO1 TOP: Setting a Price  
 KEY: Markup
7. ANS: B PTS: 1 DIF: Easy REF: 1.4  
 OBJ: Number LOC: N-SO1 TOP: On Sale!  
 ANS: D PTS: 1 DIF: Moderate REF: 1.4  
 OBJ: Number LOC: N-SO1 TOP: On Sale!

SHORT ANSWER

1. ANS: Write Grant's weight to Greg's weight as a proportion
- $$\frac{6}{7} = \frac{\text{Grant's weight}}{115 \text{ Kg}}$$
- $$115 \times \frac{6}{7} = \frac{\text{Grant's weight}}{115 \text{ Kg}} \times 115$$
- $$115 \times \frac{6}{7} = \text{Grant's weight}$$
- $$98.57 = \text{Grant's weight}$$
- Grant weighs 98.57 kg.
- PTS: 1 DIF: Easy REF: 1.1 OBJ: Number  
 LOC: N-SO1 TOP: Proportional Reasoning KEY: Ratio



5. ANS:

Calculate the unit price of the hinges.

$$\frac{\$288.60}{15} = \$19.24/\text{hinge}$$

Each hinge cost \$19.24.

PTS: 1 DIF: Easy REF: 1.2  
LOC: N-SOI TOP: Unit Price

OBI: Number

6. ANS:

You will get a discount of 6% on your purchase.  
Calculate the cost before tax for 1 door handle.  
 $\$2.59 \times (1 - 0.06) = \$2.43$

Calculate the cost of 7 door handles before tax.  
 $7 \times \$2.43 = \$17.01$

Calculate the cost of 7 door handles after tax.  
 $\$17.01 \times 1.10 = \$18.71$

It would cost \$18.71 to buy 7 door handles.

PTS: 1 DIF: Moderate REF: 1.4  
LOC: N-SOI TOP: On Sale!

OBI: Number

7. ANS:

Calculate the unit price for each option.

$$\begin{aligned} &8.6\text{-m roll:} \\ &\frac{\$31.22}{8.6\text{ m}} = \$3.63/\text{m} \end{aligned}$$

$$\begin{aligned} &15.2\text{-m roll:} \\ &\frac{\$53.81}{15.2\text{ m}} = \$3.54/\text{m} \end{aligned}$$

The second price is a better deal.

PTS: 1 DIF: Easy REF: 1.2  
LOC: N-SOI TOP: Unit Price

OBI: Number

PROBLEM

1. ANS:

Set up a proportion to solve for x, the amount of water needed.

$$\frac{125\text{ mg}}{300\text{ mL}} = \frac{500\text{ mg}}{\text{Water needed}}$$

$$\frac{125}{300} = \frac{500}{x}$$

$$300 \times x \times \frac{125}{300} = \frac{500}{x} \times x \times 300$$

$$125x = 500 \times 300$$

$$x = \frac{500 \times 300}{125}$$

$$x = 1200$$

Lawrence will need to mix the medicine with 1200 mL of water.

PTS: 1 DIF: Easy REF: 1.1  
LOC: N-SOI TOP: Proportional Reasoning

OBI: Number  
KEY: Estimation, Rate

3. ANS:

a) Calculate the unit price of each package of pork chops.

Store A	\$3.25/500 g	\$3.25 + 500 g = \$0.0065/g
Store B	\$5.85/kg	\$5.85 + 1000 g = \$0.0059/g
Store C	\$11.38/2 Kg	\$11.38 + 2000 g = \$0.0057/g

b) The best way to purchase 3.5 kg without any wasted meat is to buy one of each size of package.

Cost = \$3.25 + \$5.85 + \$11.38  
Cost = \$20.48

The total cost is \$20.48.

PTS: 1      DIF: Moderate      REF: 1.2      OBJ: Number  
LOC: N-SOI      TOP: Unit Price

2. ANS:

Find how much green paint is produced from the ratio given.

parts green paint = parts yellow paint + parts blue paint  
parts green paint = 5 + 7  
parts green paint = 12

Set up a proportion to solve for x, the amount of yellow paint needed.

$$\frac{5 \text{ parts yellow paint}}{12 \text{ part green paint}} = \frac{\text{yellow paint needed}}{4 \text{ L green paint needed}}$$

$$\frac{5}{12} = \frac{x}{4}$$

$$4 \times \frac{5}{12} = \frac{x}{4} \times 4$$

$$1.7 = x$$

The painter needs 1.7 L of yellow paint.

Calculate how much blue paint is needed.

blue paint needed = green paint needed – yellow paint needed  
blue paint needed = 4 – 1.7  
blue paint needed = 2.3 L

The painter needs 2.3 L of blue paint.

**Alternative Solution**

The proportion could be set up to solve for the amount of blue paint needed.

$$\frac{7 \text{ parts blue paint}}{12 \text{ part green paint}} = \frac{\text{blue paint needed}}{4 \text{ L green paint needed}}$$

$$\frac{7}{12} = \frac{x}{4}$$

$$4 \times \frac{7}{12} = \frac{x}{4} \times 4$$

$$2.3 = x$$

yellow paint needed = green paint needed – blue paint needed  
yellow paint needed = 4 – 2.3  
yellow paint needed = 1.7 L

The painter needs 2.3 L of blue paint and 1.7 L of yellow paint.

PTS: 1      DIF: Difficult      REF: 1.1      OBJ: Number  
LOC: N-SOI      TOP: Proportional Reasoning      KEY: Ratio