

Chapter 1 Unit Pricing and Currency Exchange, Practice Your New Skills, p55–57
Student Resource, p50–51

1. a) For the first part of this question, you can divide 80 by 2 to find 40 km in half an hour. For the second part of this question, you multiply 80 km by 2 to get 160 km, and then add the 40 km from above to find 200 km in two-and-a-half hours.
b) To find the amount of Canadian dollars for 10.00 euros, multiply the exchange rate by 10 to get \$15.90 CAD.

2. Using proportional reasoning, the bakery would sell 300 loaves of white bread that day.

3. a) $\frac{30}{4} = 7.5$ m/second

b) $\frac{\$2.80}{12} = \$0.23/\text{egg}$,
rounded to the nearest cent.

4. For the first part of this question, students should demonstrate that the answer is no. They can demonstrate this by converting both sides to a decimal or finding a common denominator to compare the fractions.

$$\frac{4}{6} \neq \frac{5}{7}$$

$$\frac{5}{7} \neq \frac{8}{10}$$

$$\frac{4}{6} \neq \frac{8}{10}$$

These are not proportional.

If you reduce an 8" × 10" photograph, you can make any proportion that is equivalent to 8:10. For example, 4:5 or 2.5:3.125.

5. a) $\frac{\$1.89}{5 \text{ lbs}} = \$0.38/\text{lb}$

$$\frac{\$5.99}{20 \text{ lbs}} = \$0.30/\text{lb}$$

The 20 lb bag is the better buy.

b) You will want to consider the quality of the potatoes and the quantity that you can use. You would also consider the type of potato and perhaps whether it is organic or not. Students may offer a variety of answers.

c) $\frac{\$15.00}{75 \text{ lbs}} = \$0.20/\text{lb}$

This is the best buy but you will want to consider whether or not you will use 75 lbs of potatoes.

6. Calculate the price at Crazy Crazy.

$$\$1299.99 - \$300.00 = \$999.99$$

Calculate the price at Too Good To Be True.

$$\$1299.99 \times 0.30 = \$390.00$$

$$\$1299.99 - \$390.00 = \$909.99$$

$$\$909.99 \times 1.13 = \$1028.29$$

Krazy Crazy offers the best deal.

7. a) The simplest way to solve this problem is to realize that 1 cup of sugar is double the amount called for in the recipe, so you need to double the flour.

$$2\frac{1}{2} \text{ cups} \times 2 = 4\frac{2}{2} \text{ cups}$$

$$4\frac{2}{2} \text{ cups} = 5 \text{ cups of flour}$$

b) To make this simpler to solve, students may first want to convert the fractions of cups to a decimal.

$$2\frac{1}{2} \text{ cups} = 2.5 \text{ cups}$$

$$\frac{1}{2} \text{ cups} = 0.5 \text{ cups}$$

Flour:

$$\frac{2.5}{12} = \frac{x}{8}$$

The common denominator is 12 multiplied by 8, or 96.

$$96 \left(\frac{2.5}{12} \right) = \left(\frac{x}{8} \right) 96$$

$$\frac{240}{12} = \frac{96x}{8}$$

Each side can be simplified by dividing the numerator by the denominator.

$$20 = 12x$$

$$\frac{20}{12} = \frac{12x}{12}$$

$$1.666 = x$$

Now, convert 1.666 back to a fraction to get $1\frac{2}{3}$ cups of flour.

Sugar:

$$\frac{0.5}{12} = \frac{x}{8}$$

$$96 \left(\frac{0.5}{12} \right) = \left(\frac{x}{8} \right) 96$$

$$\frac{48}{12} = \frac{96x}{8}$$

$$4 = 12x$$

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

$$0.333 = x$$

Again, convert back to a fraction to get $\frac{1}{3}$ cup of sugar.

8. a) Let x be the number of Canadian dollars.

$$\frac{\text{€}500.00}{x} = \frac{\text{€}1.00}{\$1.59}$$

$$1.59x \left(\frac{\text{€}500.00}{x} \right) = \left(\frac{\text{€}1.00}{\$1.59} \right) 1.59x$$

$$1.59(500.00) = x$$

$$\$795.00 = x$$

It will cost her \$795.00 CAD to buy €500.00.

b) $\$795.00 \times 1.005 = \798.98

The final cost is \$798.98.

9. First, calculate the total amount she spent in euros.

$$15(€28.92) + 40(€9.95) = €831.80$$

Then, determine the unit rate for 1 euro.

$$\frac{€1.00}{€0.6478} = 1.5437$$

Multiply the unit rate by the total amount she spent.

$$1.5437 \times 831.80 = 1284.05$$

The fabric cost \$1284.05 CAD.

10. a) Divide \$30.00 by 3 to find \$10.00/h.

You have \$1.50 unaccounted for, and \$1.50 divided by 3 is \$0.50. Add this to \$10.00 to get \$10.50/hr.

b) Copy the following table or use a spreadsheet to make a table showing the number of hours versus dollars earned.

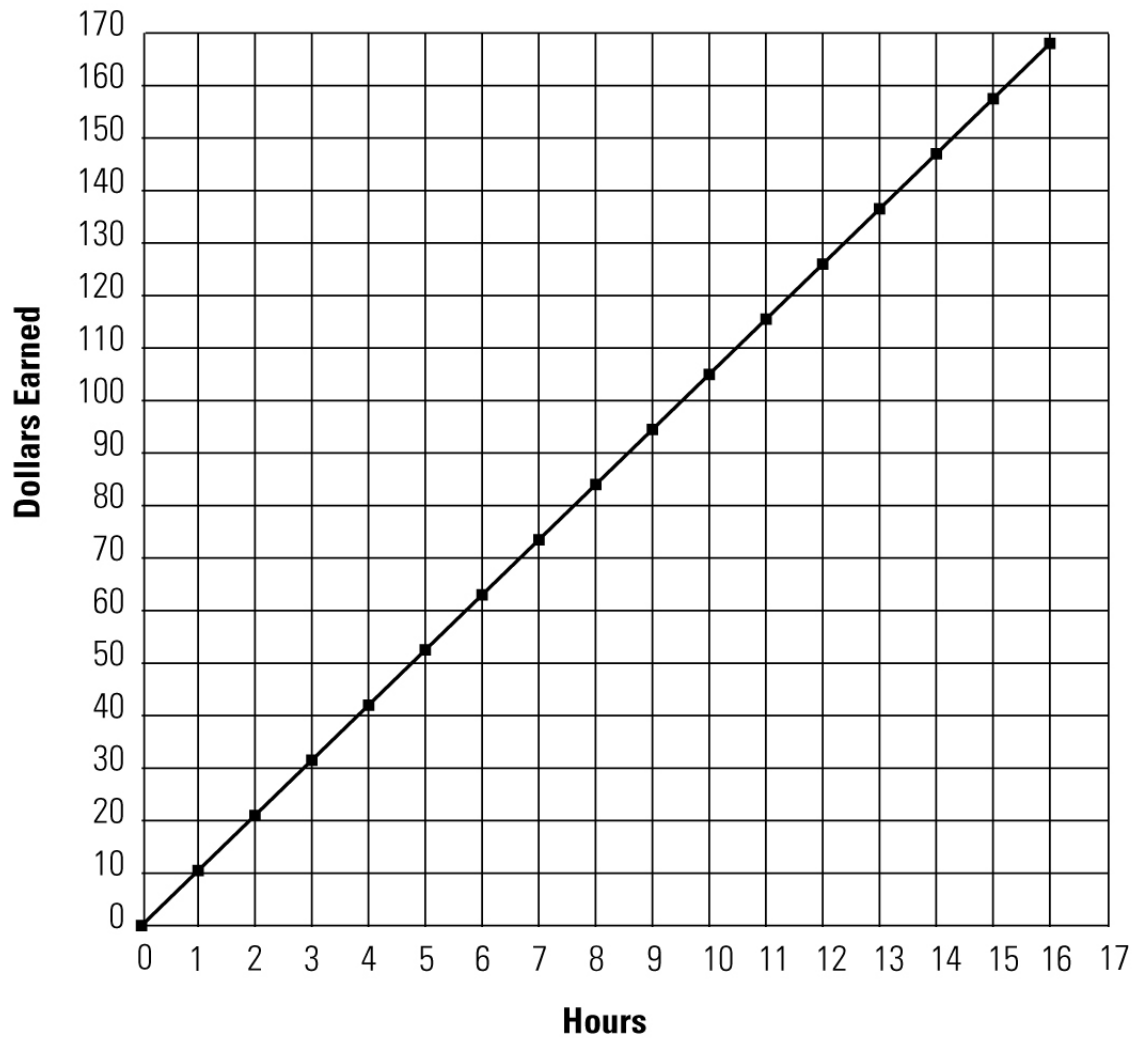
Calculating earnings	
<i>Hours</i>	<i>Dollars earned</i>
0	0
1	\$10.50
2	\$21.00
3	\$31.50
4	\$42.00
5	\$52.50

To find the dollars earned, multiply the number of hours by the hourly rate. On a spreadsheet, students would use the following formulas. They can also use the “edit—fill down” feature to carry the first formula down the table.

Calculating earnings	
<i>Hours</i>	<i>Dollars earned</i>
0	=A3×10.50
1	=A4×10.50
2	=A5×10.50
3	=A6×10.50
4	=A7×10.50
5	=A8×10.50

c) Students can plot this using pen and paper or, if using a spreadsheet, they can use the built-in graphing tool and choose the scatter plot feature. Students should extend their original tables first so that they can then extend their graph to answer the following question.

Dollars Earned for Hours Worked



d) Student answers for this question will vary since they are reading their own graph, but the values they determine should be close to the following calculated values.

3.5 hours worked:

$$\$10.50(3.5) = \$36.75$$

She will earn \$36.75 for working 3.5 hours.

12.5 hours worked:

$$\$10.50(12.5) = \$131.25$$

She will earn \$131.25 for working 12.5 hours.