

Ready® Mathematics**Unit 2 Unit Review****Form A****Solve the problems.**

- 1** Gwen borrows \$300 from her parents to buy a bike. She agrees to pay them back plus 3% simple interest over one year.

Part A

Write an equation to represent the total amount Gwen will owe her parents.

$$t = 300 + 300(.03) \quad \text{or} \quad t = 300(1.03)$$

Part B

What is the total amount of money Gwen will owe her parents?

$$\$ 309$$

- 2** Marie will earn \$15 per hour at a new job. During training, she will earn \$10 per hour. What percent of Marie's regular hourly rate will she earn during training?

$$\begin{aligned} 15 - 10 &= 5 \\ 5 \div 15 &= 0.33 \\ 0.33 \cdot 100 &= 33\% \text{ decrease} \end{aligned}$$

She will have a 33% decrease which means she will earn 67% of her regular amount.

- 3** Lana will sew 2 blankets for each of her grandchildren.

Part A

Write an equation to represent how many blankets, b , Lana will sew for g grandchildren.

$$b = 2g$$

Part B

Use your equation to determine how many blankets Lana will sew if she has 4 grandchildren.

Show your work.

$$\begin{aligned} b &= 2(4) \\ b &= 8 \end{aligned}$$

Lana will sew 8 blankets.



Review

Unit 2 Unit Assessment continued

Form A

- 4** A value of 500 increases by 12%.

Part A

Write an equation that could be used to find the new value.

$$y = 500 + 500(0.12) \quad \text{or} \quad y = 500(1.12)$$

Part B

What is the new value?

560

- 5** Which of the following represents the greatest percent error?

- A \$10 underpayment on a \$40 restaurant bill
 B Hope to make 35 baskets in a week and actually make 50

C Actual →

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 Error →

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- D Incorrectly estimate a length of 125 feet to be 150 feet

- 6** Determine if the equation $\frac{1}{3}x = y$ represents a proportional relationship.

Part A

Write four sets of values that represent $\frac{1}{3}x = y$ in the table below.

x	1	2	3	9
y	$\frac{1}{3}$	$\frac{2}{3}$	1	3

Part B

Does the equation represent a proportional relationship? Use your table from Part A to explain your answer.

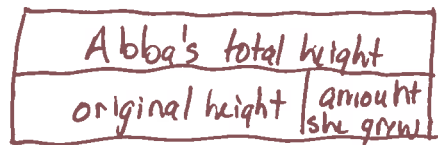
yes, the y value divided by the x value always equals $\frac{1}{3}$.



- 7 Abba grew 1 foot over the past year. He is now 5 feet tall.

Part A

Draw a bar model to compare Abba's previous height to the amount he grew over the past year.

**Part B**

~~Use your model to write and solve a proportion to~~ find the percent increase in Abba's height.

Show your work.

$$1.) 5 - 4 = 1$$

$$2.) 1 \div 4 = 0.25$$

$$3.) 0.25 \cdot 100 = 25\%$$

Abba had a 25% increase in height.

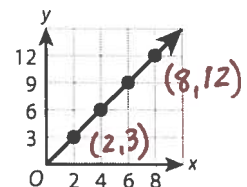
- 8 Use the graph to answer the following questions.

Part A

What is the constant of proportionality for this relationship?

$$\frac{3}{2} = 1.5$$

$$\frac{12}{8} = 1.5$$

**Part B**

Give a possible real-world example of what the constant of proportionality could represent.

The tickets at the fair each cost \$1.50.

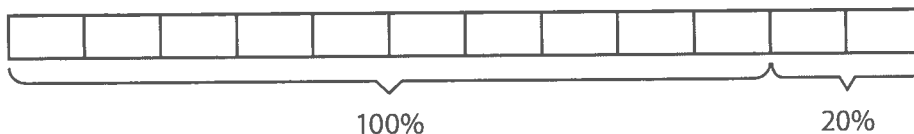


Review

Unit 2 Unit Assessment continued

Form A

- 9** Which of the following situations could the tape diagram represent?
Choose all that apply.



- A** new salary after a 20% raise
- B** a 20% tip on a dinner bill
- C** new price after a 20% discount
- D** a 20% decrease in attendance
- E** new bottle containing 20% more shampoo
- 10** Tony rollerbladed 4 miles in 20 minutes. What was his speed in miles per hour?

Show your work.

$$\frac{4 \text{ miles}}{20 \text{ min}} = \frac{x \text{ miles}}{60 \text{ min}} \qquad \frac{20x}{20} = \frac{240}{20}$$

$$x = 12$$

Tony's speed was 12 miles per hour.

- 11** Horace's speedometer reads 60 miles per hour, but during a road test he finds that he was actually driving 58 mph. What is the percent error in Horace's speedometer?

Show your work.

$$\begin{aligned} 1.) & 60 - 58 = 2 \\ 2.) & 2 \div 58 = 0.034 \\ 3.) & 0.034 \cdot 100 = 3.4\% \end{aligned}$$

The percent error is 3.4%



Unit 2 Unit Assessment *Review* continued

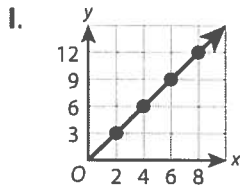
Form A

14 Find the percent increase or decrease for each of the following values (indicate whether each is an increase or a decrease).

- a. $3x$ to x 67% decrease
- b. $0.5p$ to $0.75p$ 50% increase
- c. $\frac{1}{2}q$ to $\frac{7}{8}q$ 75% increase
- d. y to $0.78y$ 22% decrease

$$\begin{array}{l}
 1 - 3 = -2 \\
 -2 \div 3 = -0.67 \\
 -0.67 \cdot 100 = -67 \\
 \\
 \frac{7}{8} - \frac{1}{2} = \frac{3}{8} \\
 \frac{3}{8} \div \frac{1}{2} = \frac{3}{4} \\
 \frac{3}{4} \cdot 100 = 75 \\
 \\
 0.75 - 0.5 = 0.25 \\
 0.25 \div 0.5 = 0.5 \\
 0.5 \cdot 100 = 50 \\
 \\
 0.78 - 1 = -0.22 \\
 -0.22 \div 1 = -0.22 \\
 -0.22 \cdot 100 = -22
 \end{array}$$

15 Consider the following relationships.

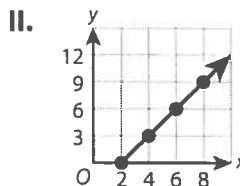


$$\frac{y}{x} = \frac{3}{2} = 1.5$$

III.

x	7	$3\frac{1}{2}$	1.75
y	20	10	5

$$\frac{y}{x} = \frac{20}{7} = 2.85$$



IV. $\frac{0.35y}{0.35} = \frac{1x}{0.35}$

$$y = 2.85x$$

Tell whether the following statements about the relationships are *True* or *False*.

- a. The unit rate for III = the unit rate for IV. True False
- b. The unit rate for I > the unit rate for III. True False
- c. The unit rate for I = the unit rate for IV. True False
- d. II does not represent a proportional relationship. True False
- e. III does not represent a proportional relationship. True False



Review
Unit 2 Unit ~~Assessment~~ continued

Form A

- 12** Wang's pay is \$20 per hour. He receives a 5% pay raise.

Part A

Could Wang use any of the following methods to calculate his new hourly pay rate?
Choose Yes or No for each method.

- a. Multiply 20 by 0.5 and add this result to 20. Yes No
- b. Add \$5 to his original pay. Yes No
- c. Calculate 5% of 2. Yes No
- d. Multiply his original pay by 1.05. Yes No
- e. Solve for x : $\frac{x}{20} = \frac{105}{100}$. Yes No

Part B

What is Wang's new hourly pay rate?

$$1.) 20 \cdot (.05) = 1$$

$$2.) 20 + 1 = 21$$

\$21 per hour

Part C

Carla's pay is \$22 per hour. She receives a pay raise of \$1 per hour.
Did her pay increase by the same percent amount as Wang's? Explain.

No, $23 - 22 = 1$

$$1 \div 22 = 0.045$$

$$0.045 \cdot 100 = 4.5$$

Carla only received a 4.5% increase.

- 13** Which of the following values could x represent in the bar diagram?
Choose all that apply.

- A the sale price of a shirt (15% discount off of \$20)
- B the cost of a restaurant bill (\$20 plus 15% tip)
- C an amount of profit donated to charity (15% of \$20)
- D the value of Kalee's investment (\$20 plus 15% interest)
- E the amount of interest Donnie owes his friend Juan (15% interest on \$20 borrowed)

\$20	15% of \$20
total x	

