

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

Date: \_\_\_\_\_

## Unit 3 Review

For each type of question, the achievement level is indicated. Showing work is an important strategy in communicating your knowledge and ideas so please be thorough.

|                          |  |
|--------------------------|--|
| <b>Learning Goal 3.1</b> | I can convert between percentages, decimals and fractions. |
|--------------------------|--|

1. Represent the given percent on a hundreds grid.

| Developing |                    |    |                   |
|------------|--------------------|----|-------------------|
| a.         | 35%                | b. | 92%               |
| c.         | 8%                 | d. | 58%               |
| Proficient |                    |    |                   |
| e.         | 15.1%              | f. | $26\frac{1}{4}\%$ |
| g.         | $1\frac{1}{3}\%$   | h. | $\frac{1}{9}\%$   |
| i.         | 151%               | j. | 205%              |
| k.         | $100\frac{1}{2}\%$ | l. | 199.9%            |

2. Convert the following percentages to both fractions in lowest terms and decimals.

| Developing |                   |    |                   |
|------------|-------------------|----|-------------------|
| a.         | 75%               | b. | 24%               |
| c.         | 80%               | d. | 50%               |
| e.         | 96%               | f. | 5%                |
| g.         | 13%               | h. | 62%               |
| Proficient |                   |    |                   |
| i.         | 15.1%             | j. | $26\frac{1}{4}\%$ |
| k.         | $32\frac{1}{3}\%$ | l. | $\frac{1}{8}\%$   |
| m.         | 137%              | n. | 275%              |
| o.         | 162.8%            | p. | 199.9%            |

3. Convert the following fractions to both decimals and percentages.

| Developing |                 |    |                  |
|------------|-----------------|----|------------------|
| a.         | $\frac{2}{5}$   | b. | $\frac{41}{100}$ |
| c.         | $\frac{49}{50}$ | d. | $\frac{73}{100}$ |
| e.         | $\frac{7}{10}$  | f. | $\frac{21}{25}$  |
| g.         | $\frac{9}{20}$  | h. | $\frac{23}{50}$  |
| Proficient |                 |    |                  |
| i.         | $\frac{4}{3}$   | j. | $\frac{5}{2}$    |
| k.         | $\frac{1}{150}$ | l. | $\frac{1}{1000}$ |
| m.         | $4\frac{1}{4}$  | n. | $8\frac{4}{5}$   |
| o.         | $\frac{3}{110}$ | p. | $\frac{7}{150}$  |

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4. Convert the following decimals to both percentages and fractions in lowest terms.

**Developing**

|    |     |    |      |    |      |    |      |
|----|-----|----|------|----|------|----|------|
| a. | 0.1 | b. | 0.67 | c. | 0.9  | d. | 0.75 |
| e. | 0.6 | f. | 0.79 | g. | 0.15 | h. | 0.5  |

**Proficient**

|    |             |    |      |    |                |    |       |
|----|-------------|----|------|----|----------------|----|-------|
| i. | 2           | j. | 1.45 | k. | 0.004          | l. | 0.015 |
| m. | $1.\bar{1}$ | n. | 1.75 | o. | $0.000\bar{6}$ | p. | 0.005 |

**Extending**

1. Teammates Logan and Travis are discussing the outcome of a game. Logan says their team scored 400% as many goals as the other team. Travis says they scored four times as many goals as the other team. Can they both be correct? Explain how you know. Show as many other ways as you can to represent this percent.
2. How many ways can you represent 75%?

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|                          |  |
|--------------------------|--|
| <b>Learning Goal 3.2</b> | I can calculate the percent of a number and combine percentages. |
|--------------------------|--|

1. Calculate the requested value.

| Developing                                 |   |                                |                                |
|--|---|--------------------------------|--------------------------------|
| a. What is 25% of 758?                     | b. What is 25% of 793?                      | c. What is 15% of 109?         | d. What is 10% of 919?         |
| e. What is 50% of 294?                     | f. What is 5% of 242?                       | g. What is 75% of 888?         | h. What is 50% of 802?         |
| i. What percent of 200 is 90?              | j. What percent of 20 is 17?                | k. What percent of 815 is 163? | l. What percent of 570 is 114? |
| m. What percent of 928 is 464?             | n. What percent of 720 is 36?               | o. What percent of 980 is 784? | p. What percent of 320 is 144? |
| q. 57 is 75% of what number?               | r. 3 is 5% of what number?                  | s. 297 is 75% of what number?  | t. 20 is 5% of what number?    |
| u. 60 is 25% of what number?               | v. 355 is 50% of what number?               | w. 108 is 25% of what number?  | x. 102 is 15% of what number?  |
| Proficient                                 |   |                                |                                |
| a. What is $33\frac{1}{3}\%$ of 86?        | b. What is $\frac{1}{4}\%$ of 250?          | c. What is 134% of 60?         | d. What is 180.5% of 100?      |
| e. What percent of 12 000 is 30?           | f. What percent of 60 is 90?                | g. What percent of 50 is 100?  | h. What percent of 36 is 720?  |
| i. 50 is $66\frac{2}{3}\%$ of what number? | j. 279 is $33\frac{1}{3}\%$ of what number? | k. 85 is 125% of what number?  | l. 5 is 0.8% of what number?   |

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**Extending**

2. A photocopier increased a diagram to 250% of its original size. What is the enlarged length of the diagram if its original length was 2.5 cm.
3. The cost of an airline ticket is \$289.50. Added to this cost is 5% for GST, 7% for PST, 1% airport improvement fee, and  $\frac{3}{4}\%$  booking fee. What is the total cost of the ticket?
4. Julia borrowed \$100 from her brother. Her brother charged her  $5\frac{1}{2}\%$  interest per month on the loan. She paid him back after three months. How much interest did she pay?
5. One year, Catville and Dogtown each had the same population of 1 200. Over the next two years, the population of Catville increased by 8% one year and 7% the next year. Over the same two years, Dogtown's population increased by 15%. Did the population of each town increase by the same amount (explain why or why not). What was (were) the new population(s)?
6. Suppose a real estate agent receives 5% commission on the first \$250 000 of a house's selling price and 7% on the remaining amount. If a house sells for \$423 000, how much commission does the real estate agent make on the sale of the house?
7. A census recorded the population of a town at 50 000. The population of the town increased by 0.7% in each of the next two years. What is the population at the end of the two years?