

Chapter 5	Ratios and Rates	
Date:	5.5 Percents	
Essential Question	What is the connections between ratios, fractions, and percents?	
	word	definition
Vocab	percent	<p>the number of parts per one hundred</p> <p>Example:</p> <p>80 out of 100 = 80%</p> <p>$\frac{80}{100}$ part whole</p>

80 out of 100 = 80%

**$\frac{80}{100}$ part
whole**

Find equivalent ratios.

So if you had some tests and got

40 out of 50

20 out of 25

or

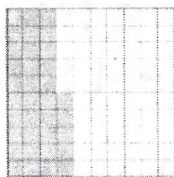
4 out of 5

you would get 80% on each of these tests.

Write the percent as a fraction.

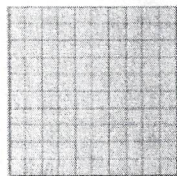
****Don't forget simplest form!!**

1) $35\% =$



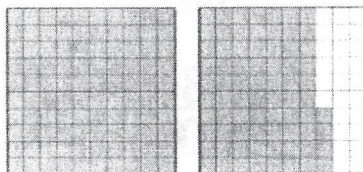
$$\frac{35}{100} = \frac{7}{20}$$

2) $100\% =$



$$\frac{100}{100} = 1$$

3) $174\% =$



$$\frac{174}{100} = 1\frac{74}{100} = 1\frac{37}{50}$$

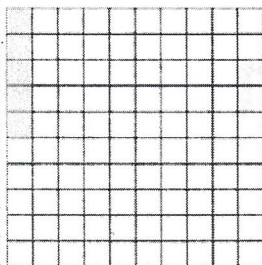
Complete numbers 1-3 on your notes page.

Color a 10 by 10 grid to model each percent.

Write the percent as a fraction.

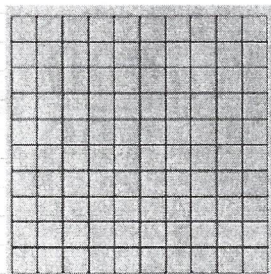
****Don't forget simplest form!!**

1) 5%



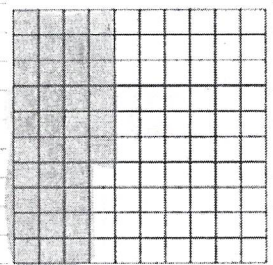
$$\frac{5}{100} = \frac{1}{20}$$

2) 168%



$$\frac{168}{100} = 1\frac{17}{25}$$

3) 36%



$$\frac{36}{100} = \frac{9}{25}$$

Complete numbers 4-5 in your composition book.

Turn percentages less than one into fractions.

$$4) \quad 0.8\% \quad \frac{.8}{100} = \frac{8}{1000} = \frac{1}{125}$$

$$5) \quad 0.75\% \quad \frac{.75}{100} = \frac{75}{10000} = \frac{3}{400}$$

Complete numbers 4-6 on your notes page.

Turn percentages less than one into fractions.

$$4) \quad 0.9\% \quad \frac{.9}{100} = \frac{9}{1000} = \frac{9}{1000}$$

$$5) \quad 0.25\% \quad \frac{.25}{100} = \frac{25}{10000} = \frac{1}{400}$$

$$6) \quad 0.5\% \quad \frac{.5}{100} = \frac{5}{1000} = \frac{1}{200}$$

Complete numbers 6-7 in your composition book.

Write an equivalent fraction with a denominator of 100.

$$6) \quad \frac{1}{4} \times \frac{25}{25} = \frac{25}{100} = 25\%$$

$$7) \quad 2\frac{1}{5} = \frac{11}{5} \times \frac{20}{20} = \frac{220}{100} = 220\%$$

$$\boxed{2\frac{1}{5}}$$

$$\boxed{200\%}$$

$$\boxed{\frac{1}{5} \times \frac{20}{20} = \frac{20}{100} = 20\%}$$

$$200\% + 20\% = 220\%$$

Complete numbers 7-10 on your notes page.

$$7) \frac{31}{50} \times 2 = \frac{62}{100} = 62\%$$

$$8) \frac{7}{25} \times 4 = \frac{28}{100} = 28\%$$

$$9) \frac{19}{20} \times 5 = \frac{95}{100} = 95\%$$

$$10) \textcircled{1} \frac{1}{2} \times 50 = 100\% + \frac{50}{100}$$
$$= 100\% + 50\% = 150\%$$

Complete number 8 in your composition book.

- 8) You got 12 out of 15 problems correct on your quiz. What is your score?**

$$12 \text{ out of } 15 = \frac{12}{15} \quad \text{This is a ratio.}$$

Divide your numerator by the denominator to find the percent.

$$12 \text{ out of } 15 = \frac{12}{15} \text{ or } 12 \div 15.$$

$$12 \div 15 = 0.8 = 80\%$$

Complete numbers 11-14 on your notes page.

Turn each fraction into a percent. Round to the nearest whole percent.

11) $\frac{5}{8}$

12) $\frac{21}{23}$

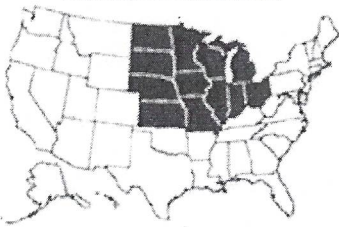
13) $\frac{11}{8}$

14) $\frac{67}{200}$

Complete number 15 on your notes page.

- 15) A drought affects 9 out of 12 midwestern states. What percent of the midwestern states are affected by the drought?

Midwestern United States



$$9 \text{ out of } 12 = \frac{9}{12}$$

$$9 \div 12 = 0.75 = 75\%$$