5.5 PERCENTS

ESSENTIAL QUESTION: what is the connection between ratios, fractions, and percents?

A percent is a _part to whole ratio_ where the whole is 100.

If you think of taking a 100 question test, your _percent (grade)_ is the number you _get right (part_ out of _100 questions (whole_

WRITING PERCENTS AS FRACTIONS
Write the percent as a fraction in simplest form.

1. 35%
$$\frac{35 \div 5}{100 \div 5} = \frac{7}{20}$$

2. 100%.
$$\frac{100 \div 100}{100 \div 100} = 1$$

3. 174%
$$\frac{174 \div 2}{100 \div 2} = \frac{87}{50}$$

4. 5%.
$$\frac{5 \div 5}{100 \div 5} = \frac{1}{20}$$

5. 168%.
$$\frac{168 \div 4}{100 \div 4} = \frac{42}{25} \quad 1\frac{17}{25}$$

6. 36%.
$$\frac{36 \div 4}{100 \div 4} = \frac{9}{20}$$

7. 83%
$$\frac{83}{100}$$

$$1\frac{37}{50}$$

TO WRITE A PERCENT AS A FRACTION.
1) Put the percent in the _numerator_ of a fraction.
2) Write 100 in the _denominator_ and then _simplify_ .

WRITING A FRACTION AS A PERCENT
Write the fraction as a percent.

1. $\frac{13}{20} \times \frac{\times 5}{\times 5}$
$$\frac{65}{100} = 65\%$$

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

3. $\frac{7}{25} \times \frac{\times 4}{\times 4}$
$$\frac{28}{100} = 28\%$$

4. $\frac{19}{20} \times \frac{\times 5}{\times 5}$
$$\frac{95}{100} = 95\%$$

5. $1\frac{1}{2} = \frac{3 \times 50}{2 \times 50} = \frac{150}{100} = 150\%$

TO WRITE A FRACTION AS A PERCENT
Write an _equivalent fraction_ with a denominator of 100.
Then write the numerator with the _percent symbol_ .

$$\frac{1}{4} \overset{\times 25}{\underset{\times 25}{=}} \frac{25}{100} = 25\%$$

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

Midwestern United States

$$\frac{9}{12} = \frac{3 \times 25}{4 \times 25} = 75\%$$

75% of the midwestern states are affected by the drought.