

WORKSHEET 2.16: EXPRESSING PERCENTS AS FRACTIONS

Percents can be expressed as fractions using the methods below:

Method 1: Write the percent as a fraction whose denominator is 100 and simplify.

EXAMPLES

$$15\% = \frac{15}{100} = \frac{3}{20} \qquad 25\% = \frac{25}{100} = \frac{1}{4} \qquad 100\% = \frac{100}{100} = 1$$

Method 2: Multiply the percent by $\frac{1}{100}$ and simplify the product. Use this method when the percent is a fraction or a mixed number. Be sure to change any mixed number to an improper fraction before you multiply.

EXAMPLES

$$\frac{4}{5}\% = \frac{4}{5} \times \frac{1}{100} = \frac{4}{500} = \frac{1}{125} \qquad 37\frac{1}{2}\% = \frac{75}{2} \times \frac{1}{100} = \frac{75}{200} = \frac{3}{8}$$

DIRECTIONS: Write each percent as a fraction or mixed number.

1. 89%

2. $1\frac{1}{2}\%$

3. 6%

4. $33\frac{1}{3}\%$

5. $16\frac{2}{3}\%$

6. 150%

7. $\frac{3}{10}\%$

8. $55\frac{5}{9}\%$



CHALLENGE: Consider the following pattern. $11\frac{1}{9}\% = \frac{1}{9}$, $22\frac{2}{9}\% = \frac{2}{9}$, $33\frac{3}{9}\% =$

$\frac{3}{9}$, $44\frac{4}{9}\% = \frac{4}{9}$, ... Can this pattern be used to express $66\frac{2}{3}$ as a fraction?

Explain your answer.

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$$\frac{4}{5}\% = \frac{4}{5} \times \frac{1}{100} = \frac{4}{500} = \frac{1}{125} \quad 37\frac{1}{2}\% = \frac{75}{2} \times \frac{1}{100} = \frac{75}{200} = \frac{3}{8}$$

DIRECTIONS: Write each percent as a fraction or mixed number.

1. 89% $\frac{89}{100}$

2. $1\frac{1}{2}\%$ $\frac{3}{200}$

3. 6% $\frac{3}{50}$

4. $33\frac{1}{3}\%$ $\frac{1}{3}$

5. $16\frac{2}{3}\%$ $\frac{1}{6}$

6. 150% $\frac{1}{2}$

7. $\frac{3}{10}\%$ $\frac{3}{1000}$

8. $55\frac{5}{9}\%$ $\frac{5}{9}$

CHALLENGE: Consider the following pattern. $11\frac{1}{9}\% = \frac{1}{9}$, $22\frac{2}{9}\% = \frac{2}{9}$, $33\frac{3}{9}\% =$

$\frac{3}{9}$, $44\frac{4}{9}\% = \frac{4}{9}$, ... Can this pattern be used to express $66\frac{2}{3}$ as a fraction?

Explain your answer.

Yes. Every increase of $11\frac{1}{9}$ percent results in an increase of $\frac{1}{9}$. $66\frac{2}{3}$ percent is equivalent to $66\frac{6}{9}$ percent which equals $\frac{6}{9}$ and satisfies the pattern.