



Name \_\_\_\_\_ Date \_\_\_\_\_

# Large and Small Percents (Pages 344–347)

To express a percent greater than 100 or less than 1 as a fraction or a decimal, you can use the same procedure that you used for percents from 1 to 100.

<p><b>Expressing Large and Small Percents</b></p>	<ul style="list-style-type: none"> <li>• Rename <math>n\%</math> as <math>\frac{n}{100}</math>.</li> <li>• If there is a decimal in the numerator, multiply the numerator and denominator by a power of 10, such as 10 or 100.</li> <li>• If there is a fraction in the numerator, rewrite the fraction <math>\frac{n}{100}</math> as <math>n \times \frac{1}{100}</math>.</li> <li>• If there is an improper fraction, rewrite it as a mixed number.</li> </ul>
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## EXAMPLES

**A** Express  $\frac{1}{2}\%$  as a fraction or mixed number in simplest form.

$$\begin{aligned} \frac{1}{2}\% &= \frac{\frac{1}{2}}{100} \\ &= \frac{1}{2} \times \frac{1}{100} \\ &= \frac{1}{200} \end{aligned}$$

**B** Express 0.03% as a decimal.

$$\begin{aligned} 0.03\% &= \frac{0.03}{100} \\ &= \frac{3}{10,000} && \text{Multiply numerator and denominator by 100.} \\ &= 0.0003 \end{aligned}$$

## Try These Together

1. Express 0.6% as a fraction or mixed number in simplest form.

*HINT: Write as  $\frac{0.6}{100}$  and multiply numerator and denominator by 10. Then simplify.*

2. Express 120% as a fraction or mixed number in simplest form.

*HINT: Write as  $\frac{120}{100}$  and simplify. Then write the improper fraction as a mixed number.*

## PRACTICE

**Express each percent as a fraction or mixed number in simplest form.**

3.  $\frac{1}{7}\%$

4. 0.07%

5.  $\frac{4}{5}\%$

6. 0.2%

7. 148%

8. 375%

9. 10,523%

10.  $15\frac{1}{5}\%$

**Express each percent as a decimal.**

11. 111%

12. 0.09%

13. 392%

14. 30.75%

15. 0.001%

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

17. 1,667.3%

18.  $140\frac{1}{5}\%$



**19. Standardized Test Practice** What is 0.02% expressed as a decimal?

**A** 0.0002

**B** 0.02

**C** 2

**D** 20

<p><b>Answers:</b> 1. <math>\frac{3}{500}</math> 2. <math>1\frac{1}{5}</math> 3. <math>\frac{1}{10}</math> 4. <math>\frac{10,000}{7}</math> 5. <math>\frac{1}{125}</math> 6. <math>\frac{500}{1}</math> 7. <math>1\frac{25}{12}</math> 8. <math>3\frac{4}{3}</math> 9. <math>105\frac{100}{23}</math> 10. <math>\frac{19}{125}</math> 11. 1.11 12. 0.0009</p>
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