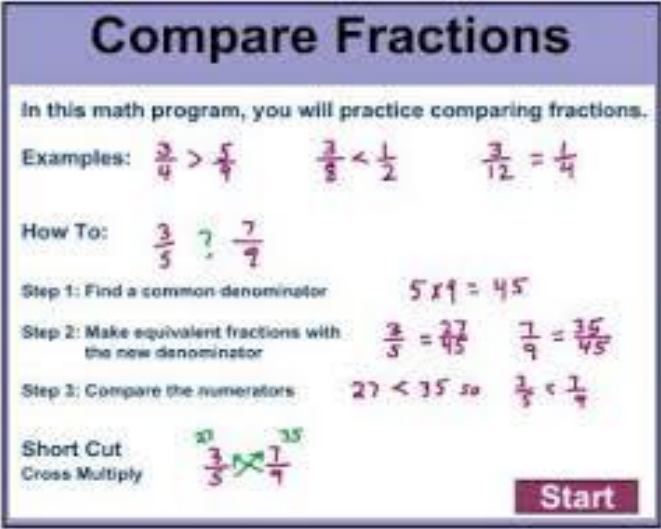
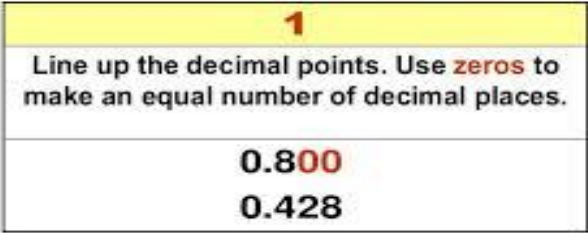
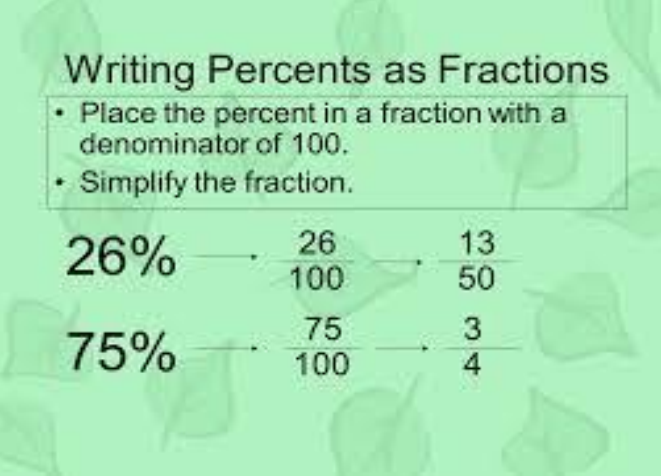


# Unit 2 ü Fractions, Decimals and Percents

SOL 6.2: The student will: a. investigate and describe fractions, decimals and percents as ratios; b. identify a given fraction, decimal or percent from a representation; c. demonstrate equivalent relationships among fractions, decimals, and percents; d. compare and order fractions, decimals, and percents. These are done *without* the use a calculator.

	Target Defined	Example of Target	Challenge A	Challenge B	Challenge C
Prerequisite Target 1  PT 1	Recognize and name fractions in decimal form.	<p><b>How to Convert Decimals to Fractions</b></p> <p>ONES   TENTHS   HUNDREDTHS   THOUSANDTHS</p> <p>2   4</p> <p>The 4 is in the Hundredths place</p> <p>Fraction = <math>\frac{24}{100} = 24</math> hundredths</p>			
Prerequisite Target 2  PT 2	Recognize and name decimals in fraction form	<p><b>4/5 (four-fifths) as a decimal</b></p> <p>Divide the numerator by the denominator</p> $5 \overline{)4} \begin{matrix} 0 \\ 0 \end{matrix}$ <p>Add the decimal point plus the trailing zeros</p> $5 \overline{)4.0} \begin{matrix} 0.8 \\ 4.0 \end{matrix}$ <p><b>Convert Fractions to Decimals</b></p> <p>In this math program, you will practice converting fractions to decimals.</p> <p>Example: <math>\frac{3}{5} = \frac{6}{10} = 0.6</math></p> <p>How To:</p> <p>Step 1: Make an equivalent fraction whose denominator is 10, 100, or 1000.</p> $\frac{4}{25} = \frac{16}{100} \qquad \frac{3}{8} = \frac{375}{1000}$ <p>Step 2: Write the new fraction as a decimal.</p> $\frac{16}{100} = 0.16 \qquad \frac{375}{1000} = 0.375$ <p><b>Start</b></p>			

Prerequisite Target 3  PT 3	Compare and order fractions and mixed numbers.	 <p><b>Compare Fractions</b></p> <p>In this math program, you will practice comparing fractions.</p> <p>Examples: <math>\frac{3}{4} &gt; \frac{5}{8}</math>    <math>\frac{7}{8} &lt; \frac{1}{2}</math>    <math>\frac{3}{12} = \frac{1}{4}</math></p> <p>How To: <math>\frac{3}{5} ? \frac{7}{9}</math></p> <p>Step 1: Find a common denominator    <math>5 \times 9 = 45</math></p> <p>Step 2: Make equivalent fractions with the new denominator    <math>\frac{3}{5} = \frac{27}{45}</math>    <math>\frac{7}{9} = \frac{35}{45}</math></p> <p>Step 3: Compare the numerators    <math>27 &lt; 35</math> so <math>\frac{3}{5} &lt; \frac{7}{9}</math></p> <p>Short Cut Cross Multiply    <math>\frac{3}{5} \times \frac{7}{9}</math></p> <p><b>Start</b></p>	Challenge <u>A</u>	Challenge <u>B</u>	Challenge <u>C</u>
Prerequisite Target 4  PT 4	Compare and order decimals.	 <p><b>Comparing Decimals</b></p> <p><b>1</b></p> <p>Line up the decimal points. Use <b>zeros</b> to make an equal number of decimal places.</p> <p><b>0.800</b> <b>0.428</b></p>			
Target 1  T1	Write percents as fractions.	 <p><b>Writing Percents as Fractions</b></p> <ul style="list-style-type: none"> <li>Place the percent in a fraction with a denominator of 100.</li> <li>Simplify the fraction.</li> </ul> <p><math>26\% \rightarrow \frac{26}{100} \rightarrow \frac{13}{50}</math></p> <p><math>75\% \rightarrow \frac{75}{100} \rightarrow \frac{3}{4}</math></p>			

<p>Target 2</p> <p><b>T 2</b></p>	<p>Write fractions as percents.</p>	<p><b>Writing Fractions as Percents</b></p> <ul style="list-style-type: none"> <li>• Divide the numerator by the denominator to get a decimal.</li> <li>• Change the decimal to a percent by moving the decimal point to the right (multiply by 100).</li> </ul> <p><math>\frac{6}{25} \longrightarrow 0.24 \longrightarrow 24\%</math></p>	<p><u>Challenge A</u></p>	<p><u>Challenge B</u></p>	<p><u>Challenge C</u></p>
<p>Target 3</p> <p><b>T 3</b></p>	<p>Write percents as decimals and decimals as percents.</p>	<p><b>Writing Percents as Decimals</b></p> <ul style="list-style-type: none"> <li>• Imagine a decimal point in the place of the percent sign, and move the decimal two spaces to the left (the same as dividing by 100).</li> </ul> <p><math>26\% \longrightarrow .26</math>  <math>40\% \longrightarrow .40 \longrightarrow .4</math>  <math>7\% \longrightarrow .07</math></p>			
<p>Target 4</p> <p><b>T 4</b></p>	<p>Write percents and decimals greater than 100% and less than 1%.</p>	<p><b>.007</b> (a percent less than 1%)</p> <ul style="list-style-type: none"> <li>• <math>.007 = .7\% = 0.7\%</math></li> </ul> <p>Often a 0 is added in front of the decimal point to emphasize that the percent is <i>less than 1%</i> (optional, not required)</p> <p>0's in front of the decimal point, on the far left, can be added or removed and it doesn't change the value of the number.</p> <p><math>007 = 7\%</math> is quite small.  It equals <math>\frac{7}{1000}</math>  seven thousandths</p>			
<p>Target 5</p> <p><b>T 5</b></p>	<p>Compare and order fractions decimals and percents.</p>	<p>Convert all numbers to same unit.  Order.  <math>.25 \quad 1/5 \quad 23\% = .25 \quad .20 \quad .23</math>  <math>.20, .23, .25 = 1/5, 23\%, .25</math></p>			

Extended  
Target 1

**ET 1**

Find the  
percent of a  
number.

### 6-4 Percent of a Number

#### Additional Example 2B: Using Decimal Equivalents to Find Percents of Numbers

Find the percent of the number.

**3% of 12**

$$\begin{aligned} 3\% \text{ of } 12 &= 0.03 \cdot 12 \\ &= 0.36 \end{aligned}$$

COURSE 2

Copyright © by Holt, Rinehart and Winston. All Rights Reserved.

Challenge

A

Challenge

B

Challenge

C

Fraction	Decimal	Percent	Fraction	Decimal	Percent
$\frac{1}{2}$	= 0.5	= 50%	$\frac{3}{5}$	= 0.6	= 60%
$\frac{2}{2}$	= 1.0	= 100%	$\frac{4}{5}$	= 0.8	= 80%
$\frac{1}{3}$	= $0.\overline{3}$	= $33\frac{1}{3}\%$	$\frac{5}{5}$	= 1.0	= 100%
$\frac{2}{3}$	= $0.\overline{6}$	= $66\frac{2}{3}\%$	$\frac{1}{8}$	= 0.125	= 12.5%
$\frac{3}{3}$	= 1.0	= 100%	$\frac{2}{8}$	= 0.25	= 25%
$\frac{1}{4}$	= 0.25	= 25%	$\frac{3}{8}$	= 0.375	= 37.5%