


Name _____

Unit 4 Study Guide

<p>Ratio: a comparison between two like things.</p>	<p>Example: X X X O O O O x's to o's ---> 3:4</p>
<p>Equivalent Ratios two ratios which are equal. Reduce to unit rate or Have the same multiplier for top and bottom.</p>	<p>Example: $\frac{6}{8}$ $\frac{18}{24}$ Both reduce to $\frac{3}{4}$ Multiply top and bottom by 3</p>
<p>Unit Rate: a ratio with the second number is a one</p>	<p>Example: Miles per hour 3 apples to : 1 student</p>
<p>Proportion: a comparison between two ratios find the multiplier cross multiply</p>	<p>Example: Yes No $\frac{2}{3} \times 3 = \frac{8}{12}$ $\frac{4}{5} \times 5 = \frac{5}{6}$ $4 \times 6 = 24$ $5 \times 5 = 25$</p>
<p>Solving Proportions: Cross multiply Solve the equation</p>	<p>Example: $\frac{4}{5} \times 5 = \frac{12}{x}$ $4x = 12 \times 5$ $4x = 60$ $x = 60 \div 4$ $x = 15$</p>
<p>Percents: Per - for each Cent - hundred Percent - for each hundred</p>	<p>Example:  $\frac{3}{5} \times 20 = \frac{60}{100} = 60\%$</p>

<p>Fraction to Decimal:</p> <p>Divide numerator by denominator</p>	<p>Example:</p> $\frac{4}{5} = 4 \div 5 = 0.8$ $5 \overline{)4.0}$ $\quad -40$ $\quad \quad 0$
<p>Decimal to Percent:</p> <p>Move the decimal two places to the right</p>	<p>Example:</p> $0.\underline{80} = 80\%$
<p>Fraction to Percent:</p> <p>Convert it to a decimal then to a percent</p>	<p>Example:</p> $\frac{1}{2} = 0.\underline{50} = 50\%$
<p>Percent to Decimal:</p> <p>Move the decimal two places to the left</p>	<p>Example:</p> $\underline{65\%} = 0.65$
<p>Decimal to Fraction:</p> <p>Put the numbers of the decimal over the last decimal place</p>	<p>Example:</p> $0.65 \xrightarrow{\text{Hundredths}} \frac{65}{100}$
<p>Percent to Fraction:</p> <p>Put the percent over 100</p>	<p>Example:</p> $32\% = \frac{32}{100}$
<p>Percent of a Number:</p> <p>Convert the percent to decimal Multiply</p>	<p>Example:</p> $15\% \text{ of } 30 = 4.5$ $\begin{array}{r} 30 \\ \times .15 \\ \hline 150 \\ 300 \\ \hline 4.50 \end{array}$

<p>Percent Given Part and Whole:</p> <p>Convert the percent to a decimal Divide</p>	<p>Example:</p> $35\% \text{ of } \underline{20} = 7$ $\begin{array}{r} 20 \\ 35 \overline{) 7.00} \\ \underline{-70} \\ 00 \end{array}$																					
<p>Converting Measurements (Customary)</p> <p>larger to smaller - multiply smaller to larger - divide</p> <p>12 in = 1 ft 3 ft = 1 yd 36 in = 1 yd 5280 ft = 1 mi 1760 yd = 1 mi</p>	<p>Example:</p> $7.5 \text{ ft} = \underline{\hspace{2cm}} \text{ in.}$ $\begin{array}{r} 7.5 \\ \times 12 \\ \hline 90 \end{array}$																					
<p>Converting Measurements (Metric)</p> <table border="0"> <tbody> <tr> <td>kilometer</td> <td>km</td> <td>1,000</td> </tr> <tr> <td>hectometer</td> <td>hm</td> <td>100</td> </tr> <tr> <td>decameter</td> <td>DaM</td> <td>10</td> </tr> <tr> <td>meter</td> <td>m</td> <td>1</td> </tr> <tr> <td>decimeter</td> <td>dm</td> <td>1/10</td> </tr> <tr> <td>centimeter</td> <td>cm</td> <td>1/100</td> </tr> <tr> <td>millimeter</td> <td>mm</td> <td>1/1,000</td> </tr> </tbody> </table>	kilometer	km	1,000	hectometer	hm	100	decameter	DaM	10	meter	m	1	decimeter	dm	1/10	centimeter	cm	1/100	millimeter	mm	1/1,000	<p>Example:</p> $8,000 \text{ mm} = \underline{\hspace{1cm}8\hspace{1cm}} \text{ m}$ $8000 \div 1000 = 8$
kilometer	km	1,000																				
hectometer	hm	100																				
decameter	DaM	10																				
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centimeter	cm	1/100																				
millimeter	mm	1/1,000																				
<p>Parts of a Ratio:</p> <ol style="list-style-type: none"> 1) Add the numbers in the ratio 2) Divide the total by that sum 3) Multiply the numbers in the ratio 	<p>Example:</p> <p>If there ratio of boys to girls is 1:3, and there are 24 students in the class, how many boys and girls are there?</p> <p>Step 1 $1 + 3 = 4$ Step 2 $24 \div 4 = 6$ Step 3 $1 \times 6 = 6$; $3 \times 6 = 18$</p> <p>6 boys, 18 girls</p>																					

My student has spent at least 30 minutes studying at home for this test.

Parent Signature _____ Date _____