

**Units 5/6 Study Guide - Multiplication and Division of Fractions**

**Due:** Wednesday, March 16th **Test:** Friday, March 18th

**Part I: Fluency with Fractions**

<p>1) Fill in the missing numerator or denominator to make equivalent fractions.</p> <p><math>\frac{2}{4} = \frac{8}{16}</math>      <math>\frac{3}{12} = \frac{1}{4}</math></p> <p><math>\frac{2}{4} \times 4 = \frac{8}{16}</math>      <math>\frac{3}{12} \div 3 = \frac{1}{4}</math></p>	<p>2) Put the fractions in order from <b>greatest to least</b>.</p> <p><math>\frac{1}{2}</math>    <math>\frac{7}{8}</math>    <math>\frac{3}{4}</math>    <math>\frac{1}{5}</math></p> <p><b><math>\frac{7}{8}</math>    <math>\frac{3}{4}</math>    <math>\frac{1}{2}</math>    <math>\frac{1}{5}</math></b></p>
<p>3) Circle the fractions that are <b>less</b> than <math>\frac{1}{2}</math>.</p> <p><math>\frac{1}{3}</math>    <math>\frac{2}{5}</math>    <math>\frac{8}{15}</math>    <math>\frac{4}{9}</math>    <math>\frac{13}{25}</math></p>	<p>4) Which fraction is closer to 2?</p> <p><math>\frac{9}{4}</math>    or    <b><math>\frac{11}{5}</math></b></p> <p>Explain:</p> <p><math>\frac{9}{4} = 2 \frac{1}{4}</math>      <math>2 \frac{1}{5} = 2 \frac{4}{20}</math></p> <p><b><math>\frac{11}{5} = 2 \frac{1}{5}</math></b>      <math>2 \frac{1}{4} = 2 \frac{5}{20}</math></p> <p><b><math>\frac{1}{4}</math> greater than <math>\frac{1}{5}</math></b></p>
<p>5) Estimate: <math>3 \times \frac{1}{5} =</math></p> <p>Is the product more or less than 3? Why?</p> <p><math>3 \times \frac{1}{5} = \frac{3}{5}</math> is less than 3</p>	<p>6) Estimate: <math>5 \div \frac{1}{3} =</math></p> <p>Is the product more or less than 5? Why?</p> <p><math>5 \times 3 = 15</math> is more than 5</p>

**Part II: Computation: Solve write your answers in simplest form or as mixed numbers if possible.**

<p>7) <math>\frac{1}{5} \times 20 =</math></p> <p><math>\frac{1}{5} \times \frac{20}{1} = \frac{20}{5} = 4</math></p>	<p>8) <math>\frac{1}{6} \times \frac{5}{6} = \frac{5}{36}</math></p>	<p>9) <math>4 \frac{1}{3} \times \frac{1}{4} =</math></p> <p><math>\frac{13}{3} \times \frac{1}{4} = \frac{13}{12} =</math></p> <p style="text-align: right;"><math>1 \frac{1}{12}</math></p> <p>Or</p> <p><math>4 \times \frac{1}{4} = \frac{4}{4} = 1</math></p> <p><math>\frac{1}{3} \times \frac{1}{4} = \frac{1}{12}</math></p> <p style="text-align: right;"><math>1 \frac{1}{12}</math></p>
<p>10) <math>\frac{1}{7} \times \frac{2}{9} = \frac{2}{63}</math></p>	<p>11) <math>9 \div \frac{1}{8} = 72</math></p>	<p>12) <math>\frac{2}{3} \div 5 = \frac{2}{15}</math></p>

**Part III: Multiplying and Dividing Fractions: \*Remember that you may use models to help you.**

13) My mom bought two dozen cupcakes. One-fourth of the cupcakes have vanilla icing and half have chocolate icing. How many of the cupcakes have vanilla icing?

$\frac{1}{4}$  of 24 =  $\frac{1}{4} \times 24 = \frac{24}{4} = 6$  Vanilla

14) Joshua and Judah share a 12 ounce box of raisins. By the end of the afternoon, Joshua has eaten  $\frac{2}{3}$  of the box, and Judah has eaten  $\frac{1}{4}$  of the box. How many ounces did Joshua eat? How many ounces did Judah eat? How many ounces are left?

Joshua  $\frac{2}{3}$  of 12 =  $\frac{24}{3} = 8$  oz.

Judah  $\frac{1}{4}$  of 12 =  $\frac{12}{4} = 3$  oz.

There is 1 oz. left.

15) Half of my grandmother's birthday cake is left over. If I want to share it equally among myself and four friends, how much of the whole cake will each of us get?

$$\frac{1}{2} \div 5 = \frac{1}{10} \text{ of the cake each}$$

16) The relay race is 3 miles long. If there are 8 runners splitting the distance equally, how far will each runner have to run?

$$3 \div 8 = \frac{3}{8} \text{ of a mile each}$$

17) Janet had a rope that was 2 meters long. She cut it into pieces that were  $\frac{1}{3}$  of a meter long. How many pieces of rope did Janet cut?

$$2 \div \frac{1}{3} = 6 \text{ pieces}$$

18) A package contains 4 cups of oatmeal. There are 13 cups of oatmeal in each serving. How many servings of oatmeal are there in the package?

$$4 \div 13 = \frac{4}{13} \text{ of a serving in the package}$$

19) Write a story problem that matches the following equation.

$$\frac{1}{8} \div 4 = \frac{1}{32} \text{ of the cake each.}$$

*We will check your word problems in class*

*Example: There was an eighth of a cookie cake left over and I shared the cake equally among myself and 3 of my friends. How much of the cake with each of us get?*

20) Write a story problem that matches the following equation.

$$5 \div \frac{1}{3} = 15 \text{ people}$$

If 5 pizzas are divided into  $\frac{1}{3}$  size pieces, how many people can have a piece of pizza?