

Lesson: Enrichment Multiplying and Dividing Fractions and Mixed Numbers

Sixth Grade Objective: 1.04 Develop fluency in addition, subtraction, multiplication and division of nonnegative rational numbers.

- a) Analyze computational strategies
- b) Describe the effect of operations on size
- c) Estimate the results of computations
- d) Judge the reasonableness of solutions

Review.

Try these on your own.

1. $\frac{3}{5} \times \frac{7}{8} =$

2. $7\frac{3}{4} \times 2\frac{1}{2} =$

3. $6\frac{1}{4} \div 3\frac{1}{2} =$

4. $\frac{1}{8} \times 8 =$

5. The mall is having a sale. Cary went a bought a sweater that originally cost \$21.00. She got it for $\frac{1}{3}$ the price. What did she pay for the sweater? Don't forget to include 7% sales tax.

Check your answers

1. $\frac{3}{5} \times \frac{7}{8} = \frac{21}{56}$

2. $7\frac{3}{4} \times 2\frac{1}{2} = \frac{31}{4} \times \frac{5}{2} = \frac{155}{8} = 19\frac{3}{8}$ **Convert the mixed numbers to improper fractions to multiply.**

1 In division, find the reciprocal of the second fraction and multiply.

3. $6\frac{1}{4} \div 3\frac{1}{2} = \frac{25}{4} \div \frac{7}{2} = \frac{25}{4} \times \frac{2}{7} = \frac{25}{2} \times \frac{1}{7} = 3\frac{3}{7}$ Remember to cancel in the problem to reduce the chance of simplifying the answer.

4. $\frac{1}{8} \times 8 = \frac{1}{\cancel{8}} \times \frac{\cancel{8}}{1} = 1$

5. The mall is having a sale. Cary went and bought a sweater that originally cost \$21.00. She got it for $\frac{1}{3}$ the price. What did she pay for the sweater? Don't forget to include 7% sales tax. Answer: \$14.98

$\frac{1}{3} \times \frac{21}{1} = 7$ She received a \$7.00 discount. Subtract \$7.00 from \$21.00 to get \$14.00.

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Multiply 7% and \$14.00. To multiply a percent, convert it to a decimal: 7%=0.07 $\times 0.07$ Add 0.98 to \$14.00 to get \$14.98.

0.98

ACTIVITY 1:

Solve for n.

1. $\frac{2}{3}n = \frac{8}{15}$ 2. $\frac{10}{19}n = \frac{15}{19}$ 3. $\frac{4}{5}n = \frac{4}{7}$

ACTIVITY 2:

Print out the dominoes card (next page of lesson). Cut out the pieces on the solid lines only. Mix up the pieces or if playing with others divide the pieces evenly. Find the start piece and place it in front of you. Then find the next piece that makes the expression true.

<p><i>START</i></p> $\frac{1}{4} \times 4 =$	<p>0.5</p> $\frac{7}{10} \times \frac{6}{21} =$	<p>1.5</p> $\frac{6}{11} \text{ of } 33 =$
<p>1</p> $\frac{2}{3} \div \frac{1}{3} =$	<p>20%</p> $2\frac{3}{5} \div \frac{3}{5} =$	<p>18</p> $\frac{1}{9} \div \frac{7}{18} =$
<p>2</p> $\frac{4}{5} \times \frac{5}{8} =$	<p>3.6</p> $\frac{4}{7} \div \frac{8}{21} =$	<p>$\frac{2}{7}$</p> <p><i>STOP</i></p>

ACTIVITY 1: DOMINOES CARD

Extra Practice!

<http://www.woodlands-junior.kent.sch.uk/maths/fractions/#Fractions>

Check Your Answers

Activity 1:

$$1. \frac{n \times \frac{2}{3}}{\frac{2}{3}} = \frac{15}{2} =$$
$$n = \frac{4}{5}$$

$$2. \frac{\frac{10}{19} n}{\frac{10}{19}} = \frac{15}{10} =$$
$$n = \frac{2}{3}$$

$$3. \frac{\frac{4}{5} \times n}{\frac{4}{5}} = \frac{7}{5} =$$
$$n = \frac{5}{7}$$

Activity 2:

Check your answers with the original dominoes card that you printed for the correct answers or use a calculator.