Unit 6 Study Guide

Multiplying and Rational Numbers

Name___Key_____ Date___3-17-2017_____ Section_____

Please show all work.

1.

Fill in the blanks to find the quotient $\frac{5}{8} \div \frac{3}{4}$. Give the quotient as a fraction in simplest form.

	A
	B

$$\frac{5}{28} \times \frac{\overset{1}{4}}{3} = \frac{5}{6}$$

2.

Find the value of each expression. Enter fractions in simplest form when necessary.

$0.58 \cdot 7.4 =$ [____] A

$2.8 \div 0.16 =$ [____] B

$\frac{2}{3} \cdot \frac{3}{8} =$ [____] C

$\frac{2}{5} \div 1\frac{4}{5} =$ [____] D

$$\overset{35}{.58}$$
$$\times 7.4$$
$$\overline{23\ 2}$$
$$40\ 6\ 0$$
$$4.2\ 9\ 2,$$
$$\boxed{4.292}$$

$$\frac{\overset{1}{\cancel{2}}}{\cancel{3}} \cdot \frac{\overset{1}{\cancel{3}}}{\underset{4}{8}} = \boxed{\frac{1}{4}}$$

$$\begin{array}{r} 1\ 7.5 \\ 16\overline{)\ 2.8\ 0.000} \\ -16 \\ \hline 1\ 2\ 0 \\ 1\ 1\ 2 \\ \hline 80 \\ -80 \\ \hline \emptyset \end{array}$$

$$\frac{2}{5} \div \frac{9}{5}$$
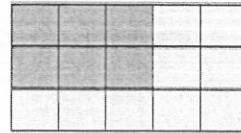$$\frac{2}{5} \times \frac{5}{9} = \boxed{\frac{2}{9}}$$

3.

How many class periods that are $\frac{3}{4}$ of an hour long will fit into a $6\frac{1}{4}$ hour school day? Assume that the class period includes time to pass between classes.

$$6\frac{1}{4} \div \frac{3}{4}$$

$$\frac{25}{4} \times \frac{4}{3} = \frac{25}{3} = 8\frac{1}{3} \text{ class periods}$$

4.

Which multiplication problem does the area model represent?

○ $\frac{2}{5} \cdot \frac{1}{3}$

● $\frac{3}{5} \cdot \frac{2}{3}$

○ $\frac{2}{10} \cdot \frac{3}{10}$

○ $\frac{2}{4} \cdot \frac{3}{4}$

5.

If 13 people each pay $4.75 to attend a concert, what is the total amount of money collected?

● $61.75

○ $61,750

$$\begin{array}{r} \overset{2}{} \overset{1}{} \\ 4.75 \\ \times\ 13 \\ \hline 1425 \\ 4750 \\ \hline 61.75 \end{array}$$

move 2 places

○ $6,175

○ $617.50

$$\#61.75$$

10.

Ann is going on vacation. Ann leaves dog food for a pet-sitter to feed her dog, Maggie, while she is away. She leaves 24 cans of wet food and a 38-ounce bag of dry food. Maggie eats $3\frac{1}{4}$ cans of wet food and $5\frac{3}{4}$ ounces of dry food each day. If Maggie eats her normal portions of wet and dry dog food each day, how many days can Ann be gone before Maggie runs out of either wet or dry food?

$38 \div 5\frac{3}{4}$

$38 \div \frac{23}{4}$

$38 \times \frac{4}{23} = \frac{152}{23}$

$\frac{152}{23} = 6\frac{14}{23}$

$6\frac{14}{23}$ days

$24 \div 3\frac{1}{4}$

$24 \div \frac{13}{4}$

$24 \times \frac{4}{13} = \frac{96}{13}$

$\frac{96}{13} \quad 7\frac{5}{13}$

$7\frac{5}{13}$ days

The dry food will run out after day 6.