

Unit 3 Study Guide

Name Key

Evaluate each of the following. You must show all work. Put your answer in simplest form.

1.  $2\frac{1}{2} \times 1\frac{3}{4}$   
 $\frac{5}{2} \cdot \frac{7}{4} = \frac{35}{8} = 4\frac{3}{8}$

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

3.  $1\frac{1}{4} \times 2\frac{1}{2}$   
 $\frac{5}{4} \cdot \frac{5}{2} = \frac{25}{8}$   
 $= 3\frac{1}{8}$

4.  $5 \times \frac{3}{20}$   
 $\frac{5}{1} \cdot \frac{3}{20} = \frac{3}{4}$

5.  $1\frac{2}{3} \div 1\frac{1}{6}$   
 $\frac{5}{3} \cdot \frac{6}{5} = \frac{25}{18}$   
 $1\frac{7}{18}$

6.  $4\frac{1}{4} \div 2$   
 $\frac{17}{4} \cdot \frac{1}{2} = \frac{17}{8}$   
 $2\frac{1}{8}$

7.  $\frac{3}{4} \div 3\frac{1}{4}$   
 $\frac{3}{4} \cdot \frac{4}{13} = \frac{3}{13}$

8.  $6 \div 3\frac{1}{5}$   
 $\frac{6}{1} \cdot \frac{5}{25} = \frac{48}{25} = 1\frac{23}{25}$

Solve each word problem and show all of your work. Your answer must be in simplest form.

9. A lock is turned  $\frac{1}{8}$  to the right, then  $\frac{2}{5}$  to the right again. How far is the lock turned?

$$\frac{1}{8} + \frac{2}{5} = \frac{5}{40} + \frac{16}{40} = \frac{21}{40}$$

10. Susan has  $\frac{1}{3}$  of an hour left to make cards. It takes her  $\frac{1}{6}$  of an hour to make each card. How many cards can she make?

$$\frac{1}{3} \div \frac{1}{6} = \frac{1}{3} \cdot \frac{6}{1} = 2$$

11. A bag contains 21 cups of dog food. Your dog eats  $2\frac{1}{8}$  cups of dog food each day. How many days does one bag of dog food last?

$$21 \div 2\frac{1}{8} = \frac{21}{1} \cdot \frac{8}{17} = \frac{168}{17} = 9\frac{15}{17}$$

12. Alanna, Shreesh, J'ylan, Amari, and Ethan ordered pizzas to eat while they watched Sunday Night football. Each of them ate  $\frac{2}{3}$  of a pizza. Assuming there were no whole pizzas left over, how many pizzas did they order?

$$\frac{2}{3} \cdot \frac{5}{1} = \frac{10}{3} = 3\frac{1}{3}$$

13. Mrs. Kidd ate  $\frac{1}{2}$  of a cake. Her husband ate  $\frac{1}{2}$  of what was left. What fraction of the cake did Mr. Kidd eat?

$$\frac{1}{2} \cdot \frac{4}{5} = \frac{4}{10} = \frac{2}{5}$$

14. Find the mistake in this problem. Explain how you would correct it.

They didn't turn mixed # to improper fraction  
 $1\frac{6}{16} \times \frac{3}{7} = 1\frac{9}{56}$

$$\frac{22}{16} \cdot \frac{3}{7} = \frac{66}{112} = \frac{33}{56}$$

15. The area of a rectangle is  $\frac{2}{9}$  square yards. The width is  $\frac{1}{3}$  yard. What is the length?

$$\frac{2}{9} \div \frac{1}{3}$$

$$\frac{2}{93} \cdot \frac{3}{1} = \frac{2}{3} \text{ yd}$$