

## Unit 3 Review

Perform the indicated operation. Express your answer in simplest form.

1.  $2(-8) = -16$

2.  $-\frac{3}{4} \cdot 5 =$   
 $-\frac{3}{4} \cdot \frac{5}{1} = \boxed{-\frac{15}{4}}$

3.  $\frac{1}{8} \div \frac{3}{5} =$   
 $\frac{1}{8} \cdot \frac{5}{3} = \boxed{\frac{5}{24}}$

4.  $5\left(2\frac{2}{3}\right) =$   
 $\frac{5}{1} \cdot \frac{8}{3} = \boxed{\frac{40}{3}}$

5.  $-10 \div \frac{1}{2} =$   
 $-\frac{10}{1} \cdot \frac{2}{1} = -\frac{20}{1} = \boxed{-20}$

6.  $-2(-5.3) = \boxed{10.6}$   
 $\begin{array}{r} 5.3 \\ \times 2 \\ \hline 10.6 \end{array}$

7.  $-15 \div 3 = -5$

8.  $2\frac{2}{3} \div \frac{1}{4} =$   
 $\frac{8}{3} \cdot \frac{4}{1} = \boxed{\frac{32}{3}}$

9.  $\frac{3}{4} \cdot \frac{5}{2} = \boxed{\frac{15}{8}}$

Write an expression to represent the following, then solve it!

10. Marcus has 15 Pokemon cards. His little brother has
- $\frac{2}{5}$
- as many Pokemon cards. How many Pokemon cards does Marcus's little brother have?

$15 \cdot \frac{2}{5}$

$\frac{15}{1} \cdot \frac{2}{5} = \frac{30}{5} = \boxed{6 \text{ Pokemon cards}}$

11. Keri has
- $4\frac{3}{5}$
- feet of licorice rope. She breaks it into 3 equal parts to share. How long is each part?

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

$\frac{23}{5} \cdot \frac{1}{3} = \boxed{\frac{23}{15} \text{ feet}}$

**Find the rate. LABEL YOUR ANSWER!**

12. Taylor eats  $\frac{3}{4}$  of a pie  $\frac{2}{3}$  of an hour. What is the average amount of pie eaten per hour?

$$\frac{\frac{3}{4} \text{ pie}}{\frac{2}{3} \text{ hour}} = \frac{3}{4} \cdot \frac{3}{2} = \frac{9 \text{ pies}}{8 \text{ hours}} \text{ or } \frac{9}{8} \text{ pies per hour}$$

**Find k and write an equation to represent the situation. Fill in the table and complete the sentence.**

13. Marquise builds 6 model airplanes in  $\frac{4}{5}$  of an hour. Find the rate at which Marquise builds in airplanes per hour.

$$\frac{6}{\frac{4}{5}} = \frac{6}{1} \cdot \frac{5}{4} = \frac{30}{4} = \frac{15}{2}$$

In  $\frac{1}{3}$  hours, Marquise builds  $\frac{5}{2}$  airplanes.

$$\frac{15}{2} \cdot \frac{1}{3} = \frac{15}{6} = \frac{5}{2}$$

| Time (hours)  | Airplanes (#) |
|---------------|---------------|
| $\frac{4}{5}$ | 6             |
| $\frac{1}{3}$ | $\frac{5}{2}$ |

**MULTIPLE CHOICE**

14. Over a period of 3 hours, the outside temperature changed an average of  $-2.25^\circ$ Fahrenheit per hour. Which statement correctly describes the change in the temperature from the beginning to the end of the 3 hour period?

- (A) The temperature decreased by 0.75 degrees Fahrenheit.  
 (B) The temperature increased by 0.75 degrees Fahrenheit.  
 (C) The temperature decreased by 6.75 degrees Fahrenheit.  
 (D) The temperature increased by 6.75 degrees Fahrenheit.

$$3(-2.25) = -6.75^\circ \text{F}$$

15. Which situation can be modeled using this expression?

$$4\frac{1}{2} \div \frac{1}{4}$$

- (A) Kim has  $4\frac{1}{2}$  cups of flour. She uses  $\frac{1}{4}$  cup of flour for a recipe. How many cups of flour does Kim have remaining?  
 $4\frac{1}{2} - \frac{1}{4}$
- (B) Alex has  $4\frac{1}{2}$  pages to read for homework. So far, he has finished  $\frac{1}{4}$  of his homework. How many pages has Alex read so far?  
 $4\frac{1}{2} \cdot \frac{1}{4}$
- (C) Ben has a  $4\frac{1}{2}$  foot long sandwich. He cuts the sandwich into  $\frac{1}{4}$  foot long pieces. How many pieces of sandwich does Ben have?
- (D) Stacy has  $4\frac{1}{2}$  hours to get ready for a concert. She spends  $\frac{1}{4}$  hour showering. How many hours does Stacy have remaining to get ready?  
 $4\frac{1}{2} - \frac{1}{4}$