

**6-1****Practice****Solving Addition and Subtraction Equations**

**Solve each equation. Check your solution.**

1.  $y + 18 = 39$

2.  $m - 23 = 17$

3.  $74 = d + 37$

4.  $w + 6 = 19$

5.  $n - 4.7 = 8.4$

6.  $s - 5 = 12$

7.  $m + 18 = 78$

8.  $12\frac{3}{4} + y = 32\frac{1}{8}$

9.  $18.42 + t = 63$

10.  $p - 12 = 34$

11.  $b - 43 = 18$

12.  $48 = t - 63$

13.  $d + 2.6 = 7.1$

14.  $h - 32\frac{3}{5} = 44$

15.  $e - 0.9 = 17.4$

16.  $26 = y - 87$

17.  $13.2 + f = 17.4$

18.  $25\frac{2}{3} = k - 2\frac{1}{6}$

19.  $104 = a - 14$

20.  $a + 34 = 90$

21.  $e + 12.2 = 40$

# 6-2

Name \_\_\_\_\_ Date \_\_\_\_\_

## Practice

### *Solving Multiplication Equations*

*Solve each equation. Check your solution.*

1.  $12h = 48$

2.  $\frac{m}{8} = 7$

3.  $34 = \frac{r}{3}$

4.  $4n = 52$

5.  $\frac{y}{12} = 18$

6.  $49 = \frac{t}{5}$

7.  $64 = 2v$

8.  $23 = \frac{b}{7}$

9.  $\frac{x}{2} = 20$

10.  $1.8a = 0.9$

11.  $\frac{b}{3.5} = 7.3$

12.  $195 = 15s$

13.  $\frac{p}{2.8} = 0.6$

14.  $121 = 11d$

15.  $1.5z = 7.5$

16.  $c \div \frac{1}{4} = \frac{1}{2}$

17.  $4.8g = 15.36$

18.  $h \div 12 = 4.8$

**6-3****Practice*****Solving Two-Step Equations******Solve each equation. Check your solution.***

1.  $6n - 2 = 22$

2.  $0.5(y - 3) = 12$

3.  $4x - 5 = 15$

4.  $\frac{w}{-3} + 14 = 5$

5.  $1.5s - 8 = 19$

6.  $24 = 17 - 2c$

7.  $6 - 3b = -9$

8.  $-5h - 6 = 24$

9.  $\frac{n}{3} - 6 = 12$

10.  $3n + 12 = -12$

11.  $7x + 2 = 23$

12.  $9 = 16d + 51$

13.  $3 = -3y - 15$

14.  $174 = 75 + 55t$

15.  $2n + 35 = 106$

16.  $1.2x + 3.7 = 34.6$

17.  $3q + 7 = 13$

18.  $-12 = 7s - 5$

19.  $7t - 3 = 10$

20.  $9y + 4 = 4$

21.  $8w + 2 = -2$

**6-4****Practice*****Writing Expressions and Equations******Write each phrase as an algebraic expression.***

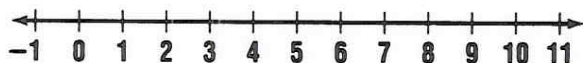
1. thirteen plus  $v$
2. three times  $d$
3. six less  $w$
4. the product of 5 and a number
5.  $g$  divided by 6
6. the difference of  $h$  and 8
7. three more hits than Bob
8. 23 divided into  $y$
9. twice Michael's age
10. \$18 less than the sale price
11. three higher than Kyra's score
12. the quotient of  $n$  and 12

***Write each sentence as an algebraic equation.***

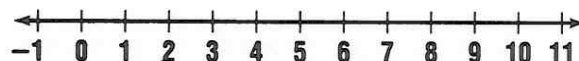
13. Juan's salary plus \$125 is \$600.
14. Fourteen divided by a number is 21.
15. Four times the number of feet is 12 feet.
16. Six times as many visitors is 120 visitors.
17. Twenty-seven is seven fewer students than last year.
18. The number of cats decreased by 17 is 19.
19. Two and one-half times the amount of interest is \$2,500.
20. One hundred increased by a number is 537.

**6-5****Practice*****Inequalities*****Solve each inequality. Graph the solution on a number line.**

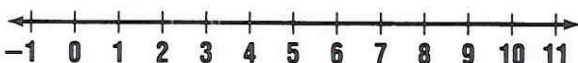
1.  $m + 6 > 10$



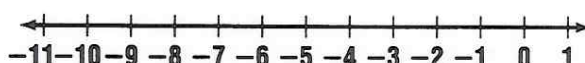
2.  $p - 8 < -2$



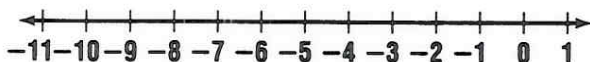
3.  $9s \geq 27$



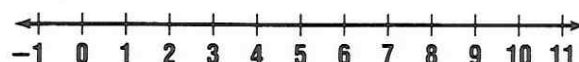
4.  $\frac{k}{2} < -3$



5.  $4 + r > -5$



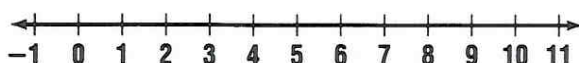
6.  $8b \leq 40$



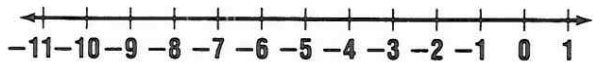
7.  $x - 9 \geq -16$



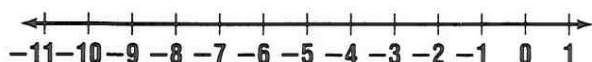
8.  $\frac{h}{3} \leq 3$



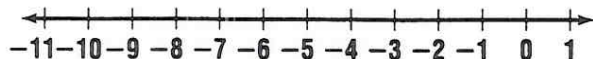
9.  $f + 2 \geq -6$



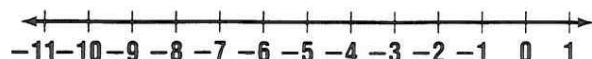
10.  $n - 5 < -7$



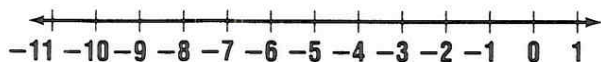
11.  $4t \geq -16$



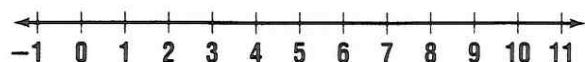
12.  $\frac{c}{5} > -2$



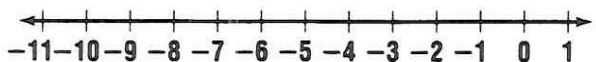
13.  $6y + 3 \leq -15$



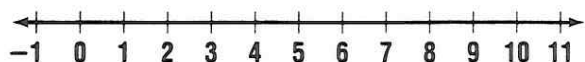
14.  $7j - 9 < 47$



15.  $2d - 8 > -18$



16.  $\frac{1}{2}k - 1 \leq 4$





# 6-6 Practice

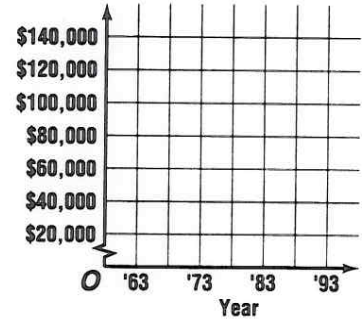
## Functions and Graphs

**Solve.**

1. The table below shows the cost of raising a child from birth to age 18.

Year	Cost
1963	\$26,000
1973	\$38,000
1983	\$84,000
1993	\$133,000

Source: *Good Housekeeping*, May, 1995

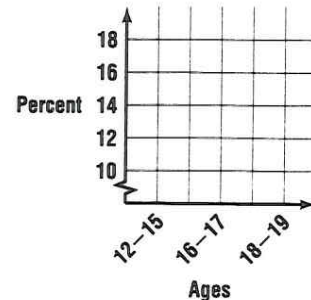


- Graph the ordered pairs (year, cost) on the coordinate plane.
- Write a statement that describes the trend over time.

2. The table below shows the percent of teens ages 12-19 who owned pagers or beepers in 1996.

Ages	Percent
12-15	10%
16-17	15%
18-19	17%

Source: Teenage Research Unlimited

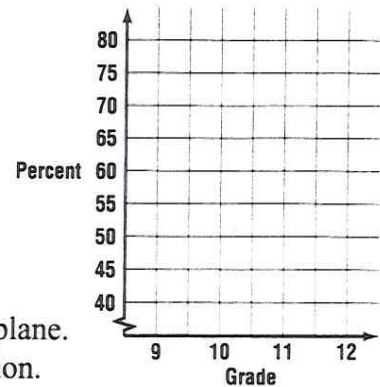


- Graph the ordered pairs (age, percent) on the coordinate plane.
- Write a statement that describes this relationship as a function.

3. The table below shows the percent of students in grades 9-12 who are enrolled in P. E., or physical education, classes.

Grade	Percent
9	81%
10	72%
11	47%
12	42%

Source: U. S. Dept. of Health and Human Services



- Graph the ordered pairs (grade, percent) on the coordinate plane.
- Write a statement that describes this relationship as a function.

# 6-7

## Practice

### Functions and Equations

Complete each table.

1.  $y = 4x$

x	y	(x, y)
2		
1		
0		
-1		

2.  $y = 2x - 1$

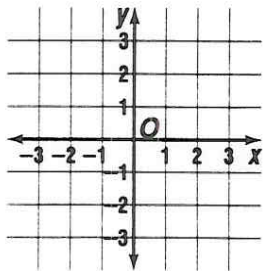
x	y	(x, y)
-1		
0		
1		
2		

3.  $y = -\frac{1}{3}x$

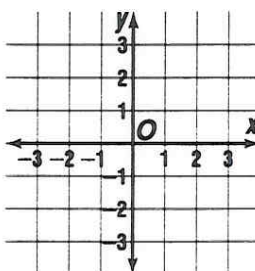
x	y	(x, y)
-3		
0		
3		
6		

Graph each equation.

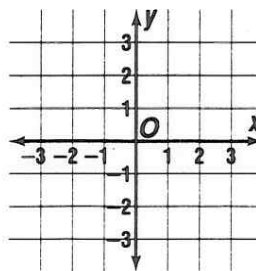
4.  $y = 3x$



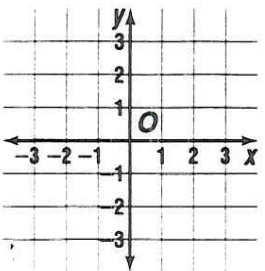
5.  $y = x - 4$



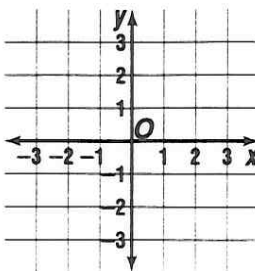
6.  $y = -x + 3$



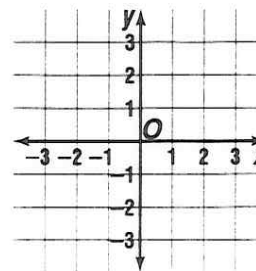
7.  $y = -2x + 1$



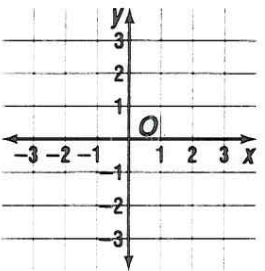
8.  $y = 3x + 1$



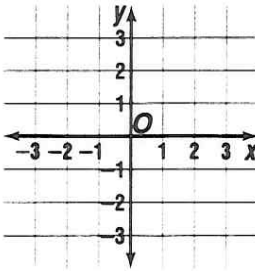
9.  $y = -\frac{1}{2}x - 2$



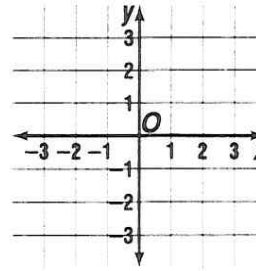
10.  $y = x + \frac{1}{3}$



11.  $y = \frac{1}{4}x + 2$



12.  $y = -x$



**7-1****Practice*****Estimating with Fractions******Round each fraction to 0,  $\frac{1}{2}$ , or 1.***

1.  $\frac{7}{12}$

2.  $\frac{1}{8}$

3.  $\frac{9}{10}$

4.  $\frac{13}{14}$

5.  $\frac{4}{7}$

6.  $\frac{1}{10}$

***Round to the nearest whole number.***

7.  $1\frac{7}{8}$

8.  $3\frac{1}{2}$

9.  $9\frac{9}{10}$

10.  $5\frac{1}{7}$

11.  $7\frac{1}{4}$

12.  $6\frac{5}{6}$

***Estimate.***

13.  $\frac{3}{4} + \frac{1}{9}$

14.  $\frac{1}{2} \times 19$

15.  $5\frac{1}{3} - \frac{1}{4}$

16.  $32\frac{1}{4} \div 2\frac{1}{6}$

17.  $9\frac{3}{7} - 3\frac{1}{2}$

18.  $3\frac{4}{5} \times 1\frac{1}{3}$

19.  $\frac{9}{10} - \frac{1}{20}$

20.  $12 \div 2\frac{5}{6}$

21.  $2\frac{1}{7} + 5\frac{9}{10}$

22.  $\frac{1}{2} \times 19\frac{3}{4}$

23.  $33\frac{1}{4} \div 3\frac{1}{6}$

24.  $10\frac{1}{7} - 4\frac{1}{3}$



# 7-2

Name \_\_\_\_\_ Date \_\_\_\_\_

## Practice

### *Adding and Subtracting Fractions*

*Add or subtract. Write each sum or difference in simplest form.*

1. 
$$\begin{array}{r} \frac{1}{7} \\ + \frac{3}{7} \\ \hline \end{array}$$

2. 
$$\begin{array}{r} \frac{3}{4} \\ - \frac{1}{4} \\ \hline \end{array}$$

3. 
$$\begin{array}{r} \frac{11}{12} \\ - \frac{1}{3} \\ \hline \end{array}$$

4. 
$$\begin{array}{r} \frac{8}{15} \\ - \frac{2}{5} \\ \hline \end{array}$$

5. 
$$\begin{array}{r} \frac{17}{25} \\ + \frac{3}{10} \\ \hline \end{array}$$

6. 
$$\begin{array}{r} \frac{7}{8} \\ + \frac{2}{3} \\ \hline \end{array}$$

7. 
$$\begin{array}{r} \frac{6}{7} \\ - \frac{1}{7} \\ \hline \end{array}$$

8. 
$$\begin{array}{r} \frac{9}{10} \\ + \frac{1}{5} \\ \hline \end{array}$$

9. 
$$\begin{array}{r} \frac{2}{3} \\ + \frac{6}{7} \\ \hline \end{array}$$

10.  $\frac{11}{15} + \frac{3}{5}$

11.  $\frac{4}{5} - \frac{1}{10}$

12.  $\frac{17}{18} - \frac{2}{9}$

13.  $\frac{3}{4} + \frac{1}{9}$

14.  $\frac{7}{8} - \frac{1}{3}$

15.  $\frac{7}{9} + \frac{1}{3}$

16.  $\frac{3}{4} - \frac{2}{5}$

17.  $\frac{2}{5} + \frac{12}{13}$

18.  $\frac{3}{20} + \frac{3}{10}$

# 7-3

Name \_\_\_\_\_ Date \_\_\_\_\_

## Practice

### *Adding and Subtracting Mixed Numbers*

*Complete. Use circle diagrams if necessary.*

1.  $3\frac{1}{3} = 2\frac{\square}{3}$

2.  $9\frac{7}{5} = \square\frac{2}{5}$

3.  $7\frac{1}{2} = 6\frac{\square}{2}$

4.  $4\frac{9}{7} = 5\frac{\square}{7}$

5.  $6\frac{7}{8} = 5\frac{\square}{8}$

6.  $12\frac{3}{4} = 11\frac{\square}{4}$

*Add or subtract. Write each sum or difference in simplest form.*

7.  $2\frac{1}{3} + 5\frac{1}{3}$

8.  $9\frac{6}{7} - 6\frac{1}{7}$

9.  $3\frac{4}{5} + 1\frac{3}{5}$

10.  $8\frac{3}{4} - 5\frac{1}{8}$

11.  $7\frac{5}{6} - 2\frac{1}{3}$

12.  $9\frac{5}{12} - 5\frac{3}{4}$

13.  $12\frac{7}{10} - 5\frac{3}{4}$

14.  $6\frac{5}{6} + 7\frac{3}{8}$

15.  $9\frac{3}{8} - 1\frac{2}{3}$

16.  $10\frac{7}{9} + 4\frac{1}{4}$

17.  $8\frac{4}{15} - 6\frac{3}{5}$

18.  $2\frac{1}{4} + 3\frac{1}{2} + 5\frac{5}{8}$

**7-4****Practice*****Multiplying Fractions and Mixed Numbers***

***Multiply. Write each product in simplest form.***

1.  $\frac{2}{3} \times \frac{1}{2}$

2.  $\frac{3}{4} \times \frac{1}{9}$

3.  $3 \times \frac{4}{9}$

4.  $\frac{1}{5} \times \frac{1}{4}$

5.  $\frac{1}{4} \times \frac{4}{5}$

6.  $\frac{4}{9} \times \frac{3}{4}$

7.  $\frac{13}{21} \times \frac{7}{13}$

8.  $\frac{7}{8} \times \frac{4}{9}$

9.  $\frac{5}{7} \times \frac{7}{10}$

10.  $\frac{4}{5} \times \frac{5}{14}$

11.  $\frac{1}{4} \times \frac{5}{8}$

12.  $\frac{2}{3} \times \frac{5}{9}$

13.  $\frac{4}{5} \times 7$

14.  $2\frac{2}{5} \times 1\frac{3}{7}$

15.  $6 \times \frac{2}{3}$

16.  $3\frac{3}{4} \times 12$

17.  $1\frac{5}{9} \times 2\frac{4}{7}$

18.  $4\frac{1}{3} \times \frac{1}{2}$

## Practice

**Integration: Measurement  
Changing Customary Units****Complete.**

1. 4 lb = \_\_\_\_\_ oz
2. 12 qt = \_\_\_\_\_ gal
3. 10 c = \_\_\_\_\_ pt
4. 10,000 lb = \_\_\_\_\_ tons
5. 16 fl oz = \_\_\_\_\_ c
6. 32 oz = \_\_\_\_\_ lb
7. 5 c = \_\_\_\_\_ fl oz
8. 12 gal = \_\_\_\_\_ qt
9. 12 pt = \_\_\_\_\_ qt
10. 7 c = \_\_\_\_\_ pt
11. 5 tons = \_\_\_\_\_ lb
12. 6 gal = \_\_\_\_\_ qt
13. 3 gal = \_\_\_\_\_ qt
14. 24 pt = \_\_\_\_\_ c
15. 17 tons = \_\_\_\_\_ lb
16. 24 fl oz = \_\_\_\_\_ c
17. 9 gal = \_\_\_\_\_ qt
18. 53 qts = \_\_\_\_\_ gal
19. 9.5 tons = \_\_\_\_\_ lb
20. 15 c = \_\_\_\_\_ pt
21. 3.5 c = \_\_\_\_\_ fl oz
22. 11 c = \_\_\_\_\_ pt
23. 23 pt = \_\_\_\_\_ qt
24. 0.5 qt = \_\_\_\_\_ pt

**Solve.**

25. At liftoff, the space shuttle *Atlantis* weighed 100 tons. How many pounds is this?
26. The gasoline tank of a minivan holds 18 gallons. How many quarts is this?
27. The average weight of a baby at birth is 7 pounds. How many ounces is this?
28. Portable telephones can weigh as little as 8 ounces. How many pounds is this?
28. Milk is sold in 8 fl oz, 16 fl oz, 32 fl oz, and 64 fl oz cardboard containers. Change these sizes to cups.
30. The United States exports over 200 billion pounds of coal. How many tons is this?

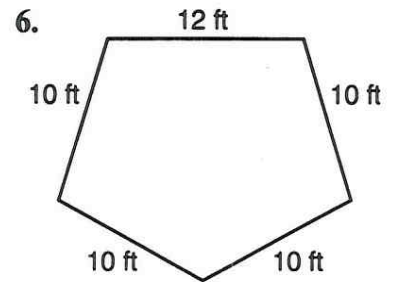
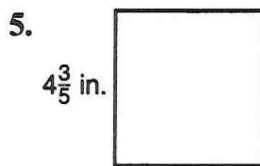
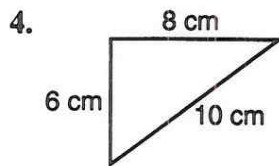
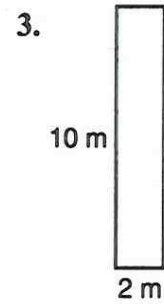
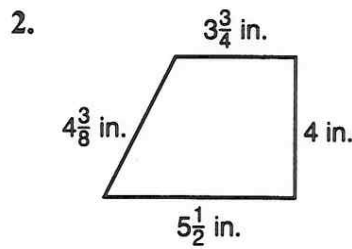
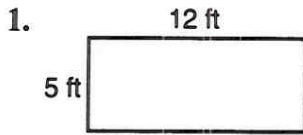
# 7-6

Name \_\_\_\_\_ Date \_\_\_\_\_

## Practice

### Integration: Geometry Perimeter

Find the perimeter of each figure shown or described.

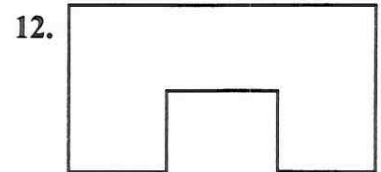
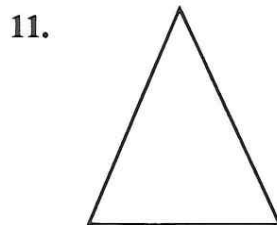
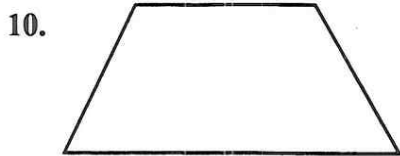


7. rectangle:  
 $\ell = 6$  yards  
 $w = 4$  yards

8. rectangle:  
 $\ell = 8.2$  meters  
 $w = 7.1$  meters

9. rectangle:  
 $\ell = 7\frac{1}{2}$  inches  
 $w = 6\frac{3}{8}$  inches

Find the perimeter of each figure. Use a ruler to measure to the nearest eighth inch.

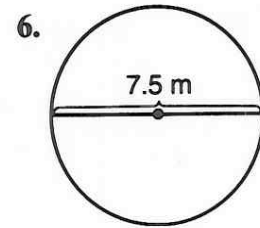
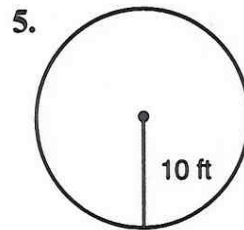
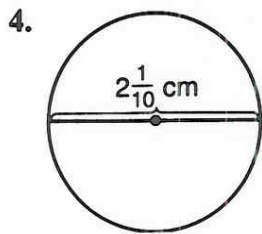
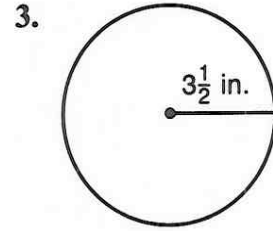
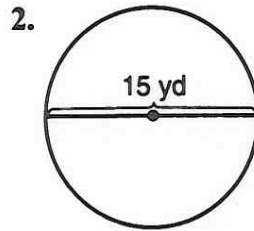
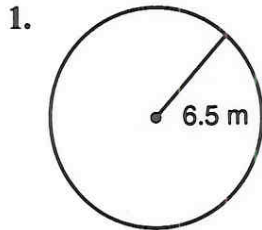


13. Find the perimeter of a square with side  $14\frac{1}{2}$  inches.

14. Find the perimeter of a triangle with sides 4 inches,  $8\frac{1}{2}$  inches, and  $9\frac{1}{4}$  inches.

**7-7****Practice****Integration: Geometry**  
**Circles and Circumferences**

Find the circumference of each circle to the nearest tenth. Use 3.14 for  $\pi$ .



7.  $d = 8\frac{3}{4}$  in.

8.  $d = 11.5$  cm

9.  $r = 11$  ft

10.  $r = 6.8$  m

11.  $r = 4\frac{2}{3}$  ft

12.  $d = 2\frac{1}{3}$  yd

13. What is the radius of a circle whose diameter is 8 meters long?

14. What is the diameter of a circle whose radius is 20.4 centimeters long?

# 7-8

Name \_\_\_\_\_ Date \_\_\_\_\_

## Practice

### Properties

Name the property shown by each statement.

1.  $\frac{3}{8} + 0 = \frac{3}{8}$

2.  $\frac{3}{4} \times \left(\frac{1}{2} \times \frac{1}{3}\right) = \left(\frac{3}{4} \times \frac{1}{2}\right) \times \frac{1}{3}$

3.  $\frac{1}{3} \times \left(\frac{1}{4} + \frac{3}{5}\right) = \frac{1}{3} \times \frac{1}{4} + \frac{1}{3} \times \frac{3}{5}$

4.  $\frac{3}{5} + \frac{5}{9} = \frac{5}{9} + \frac{3}{5}$

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

6.  $1\frac{7}{9} \times 1 = 1\frac{7}{9}$

Name the multiplicative inverse of each number.

7. 5

8.  $1\frac{3}{4}$

9.  $\frac{7}{9}$

10. 1

11.  $2\frac{1}{2}$

12.  $\frac{3}{13}$

Solve each equation. Write the solution in simplest form.

13.  $\frac{3}{2}h = 6$

14.  $3 \times 1\frac{1}{5} = p$

15.  $7\frac{1}{10} \times 8 = d$

Compute mentally.

16.  $\frac{1}{2} \times 6\frac{2}{7}$

17.  $9\frac{9}{24} \times \frac{1}{3}$

18.  $8\frac{4}{9} \times \frac{1}{4}$

**7-9****Practice*****Dividing Fractions and Mixed Numbers******Divide. Write each quotient in simplest form.***

1.  $\frac{7}{8} \div \frac{2}{3}$

2.  $5 \div \frac{3}{5}$

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

***Solve each equation.***

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

5.  $k = \frac{4}{5} \div \frac{1}{3}$

6.  $\frac{1}{5} \div \frac{1}{4} = y$

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

8.  $\frac{4}{7} \div \frac{8}{9} = j$

9.  $w = \frac{3}{8} \div \frac{3}{4}$

10.  $\frac{9}{7} \div \frac{3}{14} = h$

11.  $\frac{4}{5} \div \frac{2}{5} = p$

12.  $5 \div 3\frac{3}{4} = q$

13.  $c = \frac{3}{8} \div 2\frac{1}{4}$

14.  $t = 7\frac{1}{3} \div 4$

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

16.  $n = 1\frac{2}{7} \div 1\frac{13}{14}$

17.  $1\frac{1}{5} \div \frac{3}{10} = r$

18.  $7\frac{1}{2} \div 2\frac{5}{6} = w$