

Spring Break Math Practice Packet

Name: _____ Date: _____ Period: _____

The pages that follow are all part of the math practice packet for spring break. Students may choose up to 16 pages to work on for extra credit. Each page completed appropriately will be awarded $\frac{1}{2}$ point of extra credit toward the overall grade – for a total possible of 8 extra points (for reference, a homework assignment is worth 2 points). This assignment is entirely optional. If you choose to complete it, it will be due absolutely no later than Friday, April 1 at 3:30 PM.

I hope you have a great break, and good luck!

~ Mr. Kordon

Lesson 5.1 Multiplying Fractions

Multiply fractions.

$$\frac{3}{8} \times \frac{2}{3} = \frac{3 \times 2}{8 \times 3}$$

$$= \frac{6}{24} = \frac{1}{4}$$

Multiply numerators together. Multiply denominators together.
Simplify.

Multiply. Write answers in simplest form.

a

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

b

$\frac{3}{4} \times \frac{5}{6}$

c

$\frac{7}{8} \times \frac{5}{7}$

d

$\frac{2}{5} \times \frac{3}{4}$

2. $\frac{7}{12} \times \frac{3}{4}$

$\frac{2}{3} \times \frac{8}{9}$

$\frac{4}{5} \times \frac{3}{8}$

$\frac{3}{7} \times \frac{3}{5}$

3. $\frac{1}{6} \times \frac{2}{3}$

$\frac{11}{12} \times \frac{2}{3}$

$\frac{2}{5} \times \frac{2}{5}$

$\frac{3}{4} \times \frac{3}{7}$

4. $\frac{2}{9} \times \frac{3}{8}$

$\frac{5}{8} \times \frac{1}{6}$

$\frac{8}{9} \times \frac{2}{3}$

$\frac{7}{8} \times \frac{7}{8}$

5. $\frac{5}{9} \times \frac{7}{8}$

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

$\frac{3}{8} \times \frac{3}{5}$

$\frac{3}{7} \times \frac{2}{5}$

6. $\frac{1}{3} \times \frac{3}{7}$

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

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

$\frac{7}{8} \times \frac{2}{9}$

Lesson 5.2 Multiplying Fractions and Whole Numbers

$$\frac{3}{5} \times 8$$

$$\frac{3}{5} \times \frac{8}{1} = \frac{24}{5}$$

$$= 4\frac{4}{5}$$

Rename 8 as $\frac{8}{1}$.

Write in simplest form.

$$5 \times \frac{2}{3}$$

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

$$= 3\frac{1}{3}$$

Rename 5 as $\frac{5}{1}$.

Write in simplest form.

Multiply. Write answers in simplest form.

a

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

b

$8 \times \frac{4}{5}$

c

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

d

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

2. $\frac{3}{5} \times 6$

$\frac{5}{12} \times 9$

$\frac{3}{7} \times 4$

$\frac{5}{8} \times 6$

3. $10 \times \frac{2}{5}$

$5 \times \frac{5}{8}$

$3 \times \frac{4}{7}$

$2 \times \frac{3}{4}$

4. $\frac{3}{10} \times 8$

$\frac{2}{3} \times 7$

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

$\frac{1}{2} \times 5$

5. $9 \times \frac{1}{3}$

$2 \times \frac{7}{16}$

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

$\frac{3}{8} \times 5$

Lesson 5.3 Multiplying Mixed Numbers and Whole Numbers

$$2\frac{3}{4} \times 5$$

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

$$= \frac{55}{4} = 13\frac{3}{4}$$

Rename the mixed number and the whole number as improper fractions.
Multiply.

Write in simplest form.

Multiply. Write answers in simplest form.

1. **a**
 $1\frac{1}{2} \times 5$

b
 $2\frac{1}{4} \times 3$

c
 $8 \times 3\frac{1}{2}$

d
 $4 \times 3\frac{1}{2}$

2. **a**
 $7 \times 3\frac{3}{8}$

b
 $6 \times 2\frac{3}{4}$

c
 $2\frac{1}{3} \times 4$

d
 $3\frac{1}{8} \times 5$

3. **a**
 $1\frac{1}{4} \times 6$

b
 $3\frac{1}{2} \times 7$

c
 $5 \times 2\frac{1}{8}$

d
 $4 \times 2\frac{1}{4}$

4. **a**
 $2 \times 2\frac{3}{7}$

b
 $8 \times 4\frac{3}{5}$

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

d
 $5\frac{3}{8} \times 2$

5. **a**
 $1\frac{3}{4} \times 7$

b
 $1\frac{5}{8} \times 6$

c
 $3 \times 2\frac{1}{4}$

d
 $4 \times 6\frac{1}{2}$

Lesson 5.4 Multiplying Mixed Numbers

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

$$\frac{11}{4} \times \frac{10}{3} = \frac{110}{12} = \frac{55}{6}$$

$$= 9\frac{1}{6}$$

Rename each mixed numeral as an improper fraction.

Multiply.

Simplify.

Multiply. Write answers in simplest form.

a

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

b

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

c

$2\frac{5}{8} \times 2\frac{3}{5}$

d

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

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

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

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

$2\frac{4}{5} \times 3\frac{1}{8}$

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

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

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

$2\frac{7}{8} \times 1\frac{1}{3}$

4. $2\frac{5}{8} \times 2\frac{1}{4}$

$1\frac{1}{8} \times 1\frac{3}{5}$

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

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

5. $1\frac{3}{5} \times 2\frac{5}{8}$

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

$2\frac{1}{2} \times 1\frac{3}{5}$

$2\frac{2}{3} \times 1\frac{5}{8}$

Lesson 5.5 Multiplication Practice

Multiply. Write answers in simplest form.

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

b
 $\frac{3}{8} \times \frac{5}{8}$

c
 $\frac{2}{7} \times \frac{4}{5}$

d
 $\frac{2}{3} \times \frac{3}{8}$

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

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

$5 \times \frac{2}{3}$

$4 \times \frac{2}{3}$

3. $2 \times \frac{7}{16}$

$\frac{3}{8} \times 4$

$\frac{2}{5} \times 6$

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

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

$2\frac{7}{8} \times 6$

$3\frac{1}{3} \times 8$

$5 \times 2\frac{4}{5}$

5. $3 \times 4\frac{5}{8}$

$5 \times 3\frac{2}{3}$

$2\frac{1}{5} \times 1\frac{1}{8}$

$1\frac{4}{7} \times 2\frac{3}{5}$

6. $3\frac{1}{2} \times 3\frac{1}{3}$

$2\frac{2}{7} \times 2\frac{1}{8}$

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

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

Lesson 5.6 Problem Solving**SHOW YOUR WORK**

Solve each problem. Write answers in simplest form.

1. Sam and José mowed $\frac{2}{3}$ of the yard. José mowed $\frac{3}{4}$ of that amount. What part of the yard did José mow?

José mowed _____ of the yard.

2. Maria practices the piano $\frac{5}{6}$ of an hour every day. How many hours does she practice in 4 days?

Maria practices _____ hours.

3. It takes 6 hours to clean the Smith's house. How long does it take to clean $\frac{5}{8}$ of the house?

It takes _____ hours.

4. Raul can ride his bike $7\frac{1}{2}$ miles in one hour. How far can he ride in $2\frac{1}{3}$ hours?

Raul can ride _____ miles.

5. If 8 boards are stacked on top of each other and each board is $2\frac{1}{4}$ inches thick, how high is the stack?

The stack is _____ inches high.

6. A bag of potatoes weighs $2\frac{1}{2}$ pounds. How much would $3\frac{1}{3}$ bags weigh?

The bags would weigh _____ pounds.

7. Jason put 6 pieces of chain together to make a fence. Each piece of chain was $3\frac{2}{5}$ feet long. How long was the chain?

The bags would weigh _____ pounds.

1.

2.

3.

4.

5.

6.

7.

Lesson 5.7 Reciprocals

The product of a number and its reciprocal is 1.
 $\frac{3}{5}$ and $\frac{5}{3}$ are reciprocals.

$$\frac{3}{5} \times \frac{5}{3} = \frac{15}{15} = 1$$

The reciprocal of $\frac{3}{5}$ is $\frac{5}{3}$.

Find the reciprocal of a whole number by writing it as a fraction.

$$4 = \frac{4}{1}$$

The reciprocal of 4 is $\frac{1}{4}$.

Write the reciprocal.

	a	b	c	d	e	f
1.	$\frac{2}{3}$ _____	$\frac{5}{8}$ _____	$\frac{1}{4}$ _____	$\frac{3}{8}$ _____	$\frac{1}{6}$ _____	$\frac{3}{7}$ _____
2.	2 _____	3 _____	5 _____	9 _____	8 _____	5 _____
3.	7 _____	$\frac{7}{3}$ _____	$\frac{1}{3}$ _____	$\frac{1}{2}$ _____	$\frac{3}{4}$ _____	$\frac{1}{5}$ _____
4.	$\frac{4}{5}$ _____	$\frac{5}{6}$ _____	$\frac{1}{7}$ _____	$\frac{11}{8}$ _____	$\frac{6}{7}$ _____	$\frac{10}{3}$ _____
5.	$\frac{1}{9}$ _____	$\frac{11}{4}$ _____	$\frac{5}{9}$ _____	$\frac{4}{9}$ _____	$\frac{5}{2}$ _____	6 _____
6.	$\frac{7}{10}$ _____	$\frac{2}{5}$ _____	1 _____	$\frac{1}{15}$ _____	$\frac{7}{9}$ _____	$\frac{7}{16}$ _____
7.	$\frac{8}{9}$ _____	10 _____	$\frac{12}{7}$ _____	$\frac{15}{16}$ _____	$\frac{3}{2}$ _____	$\frac{5}{3}$ _____
8.	$\frac{9}{10}$ _____	$\frac{8}{11}$ _____	$\frac{2}{7}$ _____	4 _____	15 _____	$\frac{12}{11}$ _____
9.	12 _____	$\frac{6}{13}$ _____	$\frac{8}{3}$ _____	$\frac{14}{15}$ _____	$\frac{7}{13}$ _____	18 _____
10.	$\frac{3}{5}$ _____	$\frac{9}{16}$ _____	$\frac{5}{9}$ _____	$\frac{3}{10}$ _____	$\frac{4}{7}$ _____	$\frac{7}{16}$ _____

Lesson 5.8 Dividing Whole Numbers and Fractions

To divide, multiply by the reciprocal of the divisor.

$$\begin{array}{l}
 \text{divisor} \quad \text{reciprocal} \\
 \downarrow \qquad \downarrow \\
 6 \div \frac{3}{8} = 6 \times \frac{8}{3} \\
 = \frac{6}{1} \times \frac{8}{3} \\
 = \frac{48}{3} = 16
 \end{array}$$

$$\begin{array}{l}
 \text{divisor} \quad \text{reciprocal} \\
 \downarrow \qquad \downarrow \\
 \frac{4}{5} \div 8 = \frac{4}{5} \times \frac{1}{8} \\
 = \frac{4}{40} \\
 = \frac{1}{10}
 \end{array}$$

Divide. Write answers in simplest form.

a

1. $5 \div \frac{2}{3}$

b

$6 \div \frac{5}{8}$

c

$2 \div \frac{4}{5}$

d

$8 \div \frac{3}{7}$

2. $9 \div \frac{3}{4}$

$10 \div \frac{5}{6}$

$15 \div \frac{3}{5}$

$4 \div \frac{7}{8}$

3. $\frac{7}{8} \div 5$

$\frac{5}{8} \div 6$

$\frac{9}{10} \div 4$

$\frac{4}{5} \div 12$

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

$\frac{5}{8} \div 8$

$\frac{5}{12} \div 5$

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

Lesson 5.9 Dividing Fractions by Fractions

To divide, multiply by the reciprocal of the divisor.

$$\frac{4}{5} \div \frac{8}{9} = \frac{4}{5} \times \frac{9}{8} = \frac{36}{40} = \frac{9}{10}$$

Divide. Write answers in simplest form.

1. **a**

$$\frac{1}{2} \div \frac{3}{5}$$

b

$$\frac{3}{8} \div \frac{2}{3}$$

c

$$\frac{5}{8} \div \frac{3}{4}$$

d

$$\frac{2}{5} \div \frac{3}{8}$$

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

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

$\frac{5}{6} \div \frac{3}{8}$

$\frac{2}{3} \div \frac{4}{5}$

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

$\frac{7}{9} \div \frac{2}{3}$

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

$\frac{5}{6} \div \frac{1}{3}$

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

$\frac{4}{9} \div \frac{3}{7}$

$\frac{1}{2} \div \frac{5}{8}$

$\frac{2}{3} \div \frac{7}{9}$

Lesson 5.10 Dividing Mixed Numbers

$$3\frac{2}{5} \div 4 \quad \text{Rename } 3\frac{2}{5} \text{ as } \frac{17}{5}.$$

$$\frac{17}{5} \div \frac{4}{1} \quad \text{Rename } 4 \text{ as } \frac{4}{1}.$$

$$\frac{17}{5} \times \frac{1}{4} = \frac{17}{20} \quad \text{Multiply by the reciprocal.}$$

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

$$\frac{13}{3} \div \frac{11}{4} \quad \text{Rename.}$$

$$\frac{13}{3} \times \frac{4}{11} = \frac{52}{33} = 1\frac{19}{33} \quad \text{Multiply by the reciprocal.}$$

Divide. Write answers in simplest form.

a

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

b

$1\frac{1}{8} \div 2\frac{1}{4}$

c

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

d

$2\frac{1}{3} \div 5$

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

$4\frac{5}{6} \div 2\frac{2}{5}$

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

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

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

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

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

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

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

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

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

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

Lesson 7.1 Multiplying Decimals

The number of digits to the right of the decimal point in the product is the sum of the number of digits to the right of the decimal point of the factors.

$$\begin{array}{r} 0.4 \\ \times 0.2 \\ \hline 0.08 \end{array}$$

$$\begin{array}{r} 0.28 \\ \times 0.6 \\ \hline 0.168 \end{array}$$

$$\begin{array}{r} 3.2432 \\ \times 0.13 \\ \hline 97296 \\ + 32432 \\ \hline 0.421616 \end{array}$$

If needed, add zeros as place holders.

Multiply.

1. **a**

$$\begin{array}{r} 0.7 \\ \times 8 \\ \hline \end{array}$$

b

$$\begin{array}{r} 0.08 \\ \times 0.5 \\ \hline \end{array}$$

c

$$\begin{array}{r} 0.325 \\ \times 0.3 \\ \hline \end{array}$$

d

$$\begin{array}{r} 1.68 \\ \times 8 \\ \hline \end{array}$$

e

$$\begin{array}{r} 25 \\ \times 0.7 \\ \hline \end{array}$$

2. **a**

$$\begin{array}{r} 0.03 \\ \times 3.06 \\ \hline \end{array}$$

b

$$\begin{array}{r} 0.162 \\ \times 0.3 \\ \hline \end{array}$$

c

$$\begin{array}{r} 8.03 \\ \times 3.5 \\ \hline \end{array}$$

d

$$\begin{array}{r} 0.297 \\ \times 7.1 \\ \hline \end{array}$$

e

$$\begin{array}{r} 76.4 \\ \times 3.6 \\ \hline \end{array}$$

3. **a**

$$\begin{array}{r} 53.64 \\ \times 0.37 \\ \hline \end{array}$$

b

$$\begin{array}{r} 328.1 \\ \times 0.63 \\ \hline \end{array}$$

c

$$\begin{array}{r} 9.806 \\ \times 31 \\ \hline \end{array}$$

d

$$\begin{array}{r} 600.3 \\ \times 0.034 \\ \hline \end{array}$$

e

$$\begin{array}{r} 895 \\ \times 0.63 \\ \hline \end{array}$$

4. **a**

$$\begin{array}{r} 27.1 \\ \times 3.54 \\ \hline \end{array}$$

b

$$\begin{array}{r} 3.263 \\ \times 18 \\ \hline \end{array}$$

c

$$\begin{array}{r} 1.253 \\ \times 12 \\ \hline \end{array}$$

d

$$\begin{array}{r} 58.9 \\ \times 0.038 \\ \hline \end{array}$$

e

$$\begin{array}{r} 0.82 \\ \times 0.82 \\ \hline \end{array}$$

5. **a**

$$\begin{array}{r} 0.283 \\ \times 0.6 \\ \hline \end{array}$$

b

$$\begin{array}{r} 0.178 \\ \times 53 \\ \hline \end{array}$$

c

$$\begin{array}{r} 0.83 \\ \times 0.23 \\ \hline \end{array}$$

d

$$\begin{array}{r} 3.6 \\ \times 0.025 \\ \hline \end{array}$$

e

$$\begin{array}{r} 48.2 \\ \times 0.26 \\ \hline \end{array}$$

Lesson 7.2 Multiplying Money

$$\begin{array}{r} \$0.08 \\ \times 16 \\ \hline 48 \\ + 8 \\ \hline \$1.28 \end{array}$$

$$\begin{array}{r} \$25.63 \\ \times 25 \\ \hline 12815 \\ + 5126 \\ \hline \$640.75 \end{array}$$

Multiply.

1.

$$\begin{array}{r} \text{a} \\ \$0.82 \\ \times 7 \\ \hline \end{array}$$

b

$$\begin{array}{r} \$0.09 \\ \times 17 \\ \hline \end{array}$$

c

$$\begin{array}{r} \$0.48 \\ \times 22 \\ \hline \end{array}$$

d

$$\begin{array}{r} \$0.77 \\ \times 38 \\ \hline \end{array}$$

2.

$$\begin{array}{r} \$3.78 \\ \times 183 \\ \hline \end{array}$$

$$\begin{array}{r} \$9.67 \\ \times 252 \\ \hline \end{array}$$

$$\begin{array}{r} \$6.85 \\ \times 75 \\ \hline \end{array}$$

$$\begin{array}{r} \$2.20 \\ \times 11 \\ \hline \end{array}$$

3.

$$\begin{array}{r} \$25.63 \\ \times 21 \\ \hline \end{array}$$

$$\begin{array}{r} \$48.45 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} \$87.35 \\ \times 13 \\ \hline \end{array}$$

$$\begin{array}{r} \$54.30 \\ \times 4 \\ \hline \end{array}$$

4.

$$\begin{array}{r} \$175.50 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} \$343.08 \\ \times 15 \\ \hline \end{array}$$

$$\begin{array}{r} \$488.62 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} \$500.60 \\ \times 1 \\ \hline \end{array}$$

5.

$$\begin{array}{r} \$88.66 \\ \times 17 \\ \hline \end{array}$$

$$\begin{array}{r} \$286.22 \\ \times 40 \\ \hline \end{array}$$

$$\begin{array}{r} \$150.65 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} \$29.30 \\ \times 11 \\ \hline \end{array}$$

Lesson 7.3 Multiplication Practice

$$\begin{array}{r} 3.62 \\ \times 10 \\ \hline 36.20 \end{array}$$

or

$$36.2$$

$$\begin{array}{r} 3.62 \\ \times 100 \\ \hline 362.00 \end{array}$$

or

$$362$$

$$\begin{array}{r} 3.62 \\ \times 1000 \\ \hline 3620.00 \end{array}$$

or

$$3620$$

Shortcut:

$$3.62 \times 10 = 36.2$$

$$3.62 \times 100 = 362$$

$$3.620 \times 1000 = 3620$$

Multiply.

1. **a**

$$\begin{array}{r} 6.542 \\ \times 10 \\ \hline \end{array}$$

b

$$\begin{array}{r} 0.425 \\ \times 100 \\ \hline \end{array}$$

c

$$\begin{array}{r} 2.645 \\ \times 10 \\ \hline \end{array}$$

d

$$\begin{array}{r} 5.264 \\ \times 1000 \\ \hline \end{array}$$

e

$$\begin{array}{r} 0.0632 \\ \times 100 \\ \hline \end{array}$$

2.
$$\begin{array}{r} 10.64 \\ \times 100 \\ \hline \end{array}$$

$$\begin{array}{r} 106.4 \\ \times 10 \\ \hline \end{array}$$

$$\begin{array}{r} 64.01 \\ \times 1000 \\ \hline \end{array}$$

$$\begin{array}{r} 0.0003 \\ \times 1000 \\ \hline \end{array}$$

$$\begin{array}{r} 0.0062 \\ \times 100 \\ \hline \end{array}$$

3.
$$\begin{array}{r} 0.025 \\ \times 10 \\ \hline \end{array}$$

$$\begin{array}{r} 0.632 \\ \times 1000 \\ \hline \end{array}$$

$$\begin{array}{r} 2.593 \\ \times 1000 \\ \hline \end{array}$$

$$\begin{array}{r} 93.25 \\ \times 10 \\ \hline \end{array}$$

$$\begin{array}{r} 72.45 \\ \times 100 \\ \hline \end{array}$$

4.
$$\begin{array}{r} 32 \\ \times 100 \\ \hline \end{array}$$

$$\begin{array}{r} 0.0023 \\ \times 10 \\ \hline \end{array}$$

$$\begin{array}{r} 27.62 \\ \times 1000 \\ \hline \end{array}$$

$$\begin{array}{r} 0.183 \\ \times 100 \\ \hline \end{array}$$

$$\begin{array}{r} 0.318 \\ \times 1000 \\ \hline \end{array}$$

5.
$$\begin{array}{r} 0.2113 \\ \times 100 \\ \hline \end{array}$$

$$\begin{array}{r} 0.1213 \\ \times 1000 \\ \hline \end{array}$$

$$\begin{array}{r} 0.3211 \\ \times 10 \\ \hline \end{array}$$

$$\begin{array}{r} 2.339 \\ \times 100 \\ \hline \end{array}$$

$$\begin{array}{r} 3.239 \\ \times 1000 \\ \hline \end{array}$$

NAME _____

Lesson 7.5 Dividing Decimals by Whole Numbers

Place a decimal point in the quotient directly above the decimal point in the dividend. Divide as if both were whole numbers.

$$\begin{array}{r} 0.2 \\ 8 \overline{) 1.6} \\ \underline{-16} \\ 0 \end{array}$$

$$\begin{array}{r} 0.015 \\ 7 \overline{) 0.105} \\ \underline{-7} \\ 35 \end{array}$$

$$\begin{array}{r} .121 \\ 6 \overline{) .726} \\ \underline{-6} \\ 12 \\ \underline{-12} \\ 06 \end{array}$$

$$\begin{array}{r} .6253 \\ 5 \overline{) 3.1265} \\ \underline{-30} \\ 12 \\ \underline{-10} \\ 26 \\ \underline{-25} \\ 15 \end{array}$$

Divide.

1. $6 \overline{) 46.2}$

$7 \overline{) 3.43}$

$5 \overline{) 1.025}$

$8 \overline{) 1.384}$

2. $9 \overline{) 8.181}$

$7 \overline{) 2.877}$

$3 \overline{) 15.024}$

$7 \overline{) 2.058}$

3. $6 \overline{) 3.72}$

$3 \overline{) 0.0174}$

$4 \overline{) 9.88}$

$5 \overline{) 28.25}$

4. $9 \overline{) 16.83}$

$5 \overline{) 0.1875}$

$6 \overline{) 4.68}$

$4 \overline{) 24.8}$

Lesson 7.6 Dividing Whole Numbers by Decimals

Multiply the divisor and dividend by 10, by 100, or by 1000 so the new divisor is a whole number.

$$\begin{array}{r} 0.8 \overline{)72.0} = 8 \overline{)720} \\ \text{Multiply} \\ \text{by 10.} \end{array}$$

$$\begin{array}{r} 0.4 \overline{)34.00} = 4 \overline{)3400} \\ \text{Multiply} \\ \text{by 100.} \end{array}$$

$$\begin{array}{r} 0.003 \overline{)27.000} = 3 \overline{)27000} \\ \text{Multiply} \\ \text{by 1000.} \end{array}$$

Divide.

a

b

c

d

1. $0.8 \overline{)48}$

$0.4 \overline{)80}$

$0.6 \overline{)216}$

$0.5 \overline{)21}$

2. $0.07 \overline{)28}$

$0.02 \overline{)45}$

$0.08 \overline{)24}$

$0.03 \overline{)15}$

3. $0.006 \overline{)54}$

$0.007 \overline{)14}$

$0.008 \overline{)72}$

$0.003 \overline{)282}$

4. $0.7 \overline{)3283}$

$0.06 \overline{)2724}$

$0.004 \overline{)12}$

$0.9 \overline{)891}$

Lesson 7.7 Dividing Decimals by Decimals

Multiply the divisor and dividend by 10, by 100, or by 1000 so the new divisor is a whole number.

$$\begin{array}{r} 0.3 \overline{) 1.17} \\ \text{Multiply} \\ \text{by 10.} \end{array} = \begin{array}{r} 3 \overline{) 11.7} \\ \underline{-9} \\ 27 \end{array}$$

$$\begin{array}{r} 0.05 \overline{) 7.50} \\ \text{Multiply} \\ \text{by 100.} \end{array} = \begin{array}{r} 5 \overline{) 750} \\ \underline{-5} \\ 25 \\ \underline{-25} \\ 0 \end{array}$$

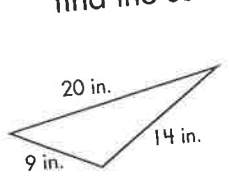
$$0.002 \overline{) 3.600} = 2 \overline{) 3600}$$

Divide.

- | | a | b | c | d |
|----|--------------------------|---------------------------|----------------------------|---------------------------|
| 1. | $0.8 \overline{) 0.168}$ | $0.03 \overline{) 1.68}$ | $0.004 \overline{) 0.012}$ | $0.5 \overline{) 25.5}$ |
| 2. | $0.06 \overline{) 2.16}$ | $0.07 \overline{) 0.245}$ | $0.009 \overline{) 37.8}$ | $0.7 \overline{) 17.206}$ |
| 3. | $0.3 \overline{) 0.027}$ | $0.06 \overline{) 27.12}$ | $0.008 \overline{) 4}$ | $0.5 \overline{) 0.8}$ |
| 4. | $.002 \overline{) 45}$ | $0.07 \overline{) 50.4}$ | $0.6 \overline{) 0.0192}$ | $0.04 \overline{) 1.92}$ |

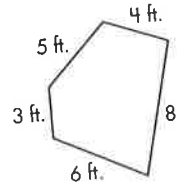
Lesson 9.4 Measuring Perimeter and Area

The **perimeter** is the distance around a figure. To find the perimeter, find the sum of the lengths of its sides.



$$\begin{array}{r} 20 \\ 14 \\ + 9 \\ \hline \end{array}$$

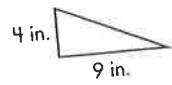
perimeter = 43 inches



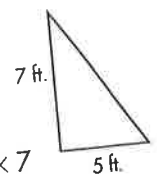
$$\begin{array}{r} 4 \\ 8 \\ 6 \\ 3 \\ + 5 \\ \hline \end{array}$$

perimeter = 26 feet

The **area** (A) of a right triangle is one-half the product of the measure of its base (b) and the measure of its height (h). $A = \frac{1}{2} \times b \times h$

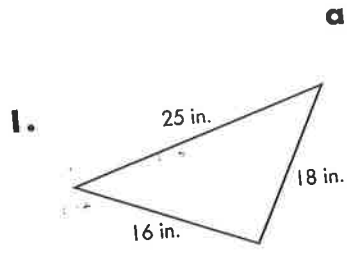


$$\begin{aligned} A &= \frac{1}{2} \times 9 \times 4 \\ &= \frac{1}{2} \times 36 \\ &= 18 \\ A &= 18 \text{ square inches} \end{aligned}$$

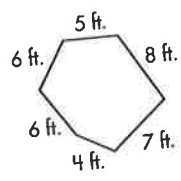


$$\begin{aligned} A &= \frac{1}{2} \times 5 \times 7 \\ &= \frac{1}{2} \times 35 \\ &= 17\frac{1}{2} \\ A &= 17\frac{1}{2} \text{ square feet} \end{aligned}$$

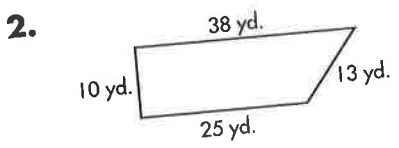
Find the perimeter of each figure.



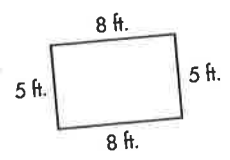
perimeter = _____ inches



perimeter = _____ feet

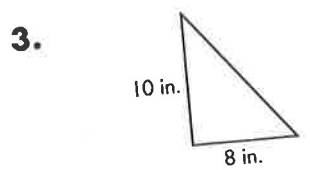


perimeter = _____ yards

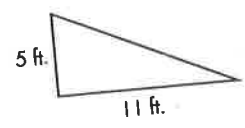


perimeter = _____ feet

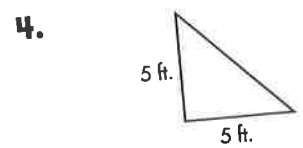
Find the area of each right triangle.



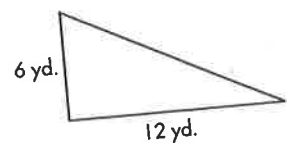
area = _____ square inches



area = _____ square feet



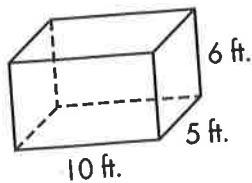
area = _____ square feet



area = _____ square yards

Lesson 9.5 Measuring Volume

The **volume** (V) measure of a rectangular solid is the product of the measure of its length (l), the measure of its width (w), and the measure of its height (h). $V = l \times w \times h$



$$\begin{aligned} V &= 10 \times 5 \times 6 \\ &= 50 \times 6 \\ &= 300 \end{aligned}$$

The volume is 300 cubic feet.

Find the volume of each rectangular solid.

1.

a

volume = _____ cubic yards

b

volume = _____ cubic inches

c

volume = _____ cubic feet

2.

volume = _____ cubic feet

volume = _____ cubic inches

volume = _____ cubic inches

3.

volume = _____ cubic feet

volume = _____ cubic inches

volume = _____ cubic inches

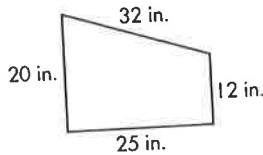


Check What You Learned

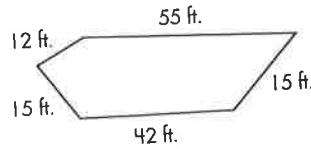
Customary Measurement

Find the perimeter of each figure.

13.



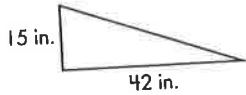
perimeter = _____ inches



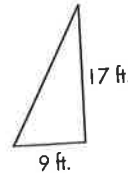
perimeter = _____ feet

Find the area of each right triangle.

14.



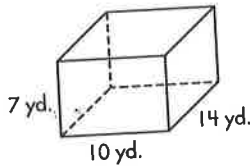
area = _____ square inches



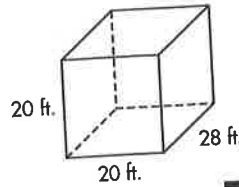
area = _____ square feet

Find the volume of each rectangular solid.

15.



volume = _____ cubic yards



volume = _____ cubic feet

CHAPTER 9 POSTTEST

SHOW YOUR WORK

Solve each problem.

16. A piece of metal is shaped like a right triangle. Its base is 18 feet and its height is 24 feet. What is its area?

The area is _____ square feet.

17. Stefanie's hamster cage is 20 inches long, 12 inches wide, and 10 inches deep. What is the volume of the cage?

The volume is _____ cubic inches.

18. Pablo's snake cage is 28 inches long, 15 inches wide, and 12 inches deep. What is the volume of the cage?

The volume is _____ cubic inches.
How many cubic feet is the volume of the cage?

The cage is _____ cubic feet.

16.

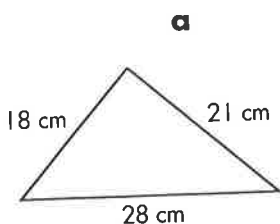
17.

18.

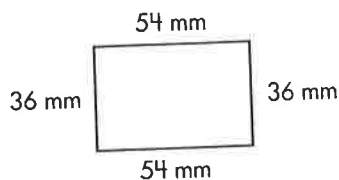
**Check What You Know****Metric Measurement**

Find the perimeter of each figure.

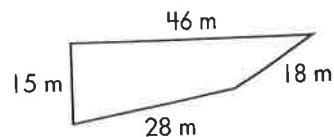
10.



perimeter = _____ cm

b

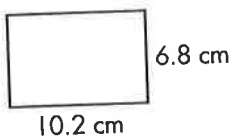
perimeter = _____ mm

c

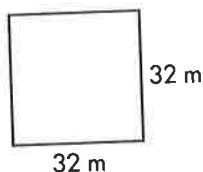
perimeter = _____ m

Find the area of each rectangle.

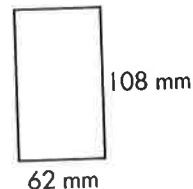
11.



area = _____ sq. cm



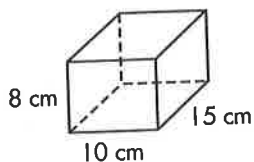
area = _____ sq. m



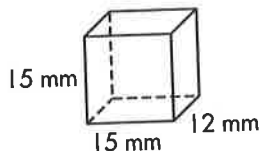
area = _____ sq. mm

Find the volume of each rectangular solid.

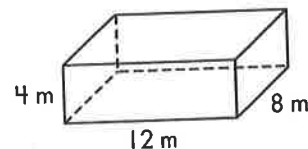
12.



volume = _____ cu. cm



volume = _____ cu. mm



volume = _____ cu. m

SHOW YOUR WORK

Solve each problem.

13. A jar contains 3.5 liters of liquid that will be divided evenly into bottles which can each hold 70 milliliters of liquid. How many bottles can be filled?

_____ bottles can be filled.

14. A nickel weighs about 5 grams. There are 40 coins in a roll of nickels. How much do 12 rolls of nickels weigh?

The rolls of nickels weigh _____ kilograms.

13.

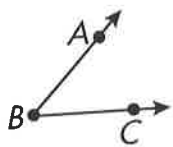
14.

Lesson 12.2 Measuring Angles

An **angle** (\angle) is formed by two rays which have a common vertex.

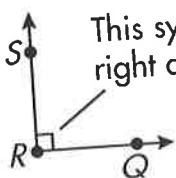
The angle is named ABC ($\angle ABC$) or CBA ($\angle CBA$). The **vertex**, the point where two rays meet, is always in the middle of the angle name. The measure of $\angle ABC$ is 45° .

If the measure of an angle is less than 90° , it is an acute angle.



This angle (\angle) is formed by \overrightarrow{BA} and \overrightarrow{BC} .

If the measure of an angle is 90° , it is a right angle.

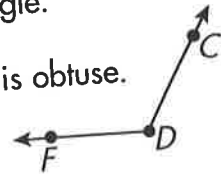


This symbol means right angle.

$\angle QRS$ is a right angle.

If the measure of an angle is more than 90° , it is an obtuse angle.

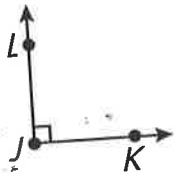
$\angle CDF$ is obtuse.



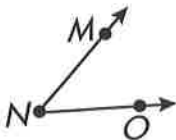
The measure of $\angle CDF$ is 117° .

Name each angle. Write whether it is acute (A), right (R), or obtuse (O). Then, measure the angle.

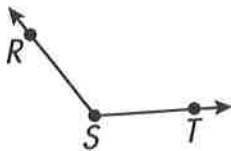
1.



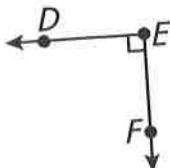
2.



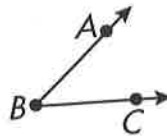
3.



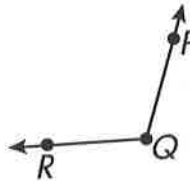
4.



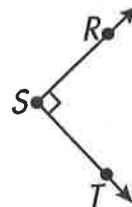
5.



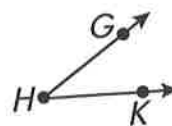
6.



7.



8.

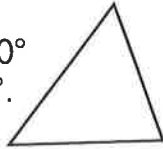


Lesson 12.4 Triangles

A **triangle** is a three-sided figure. The sum of the measures of a triangle is 180° . Triangles are classified by their angles in three categories.

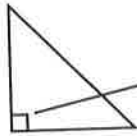
acute triangle

Acute angles are greater than 0° and less than 90° .



3 acute angles

right triangle

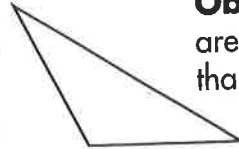


This symbol indicates a **right angle**. Right angles equal 90° .

1 right angle

obtuse triangle

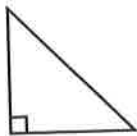
Obtuse angles are greater than 90° .



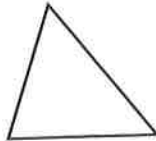
1 obtuse angle

Identify each triangle below as acute, right, or obtuse.

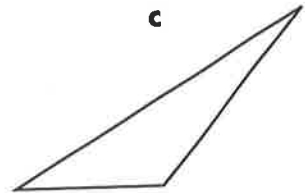
a



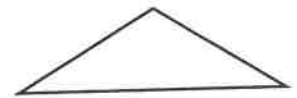
b



c

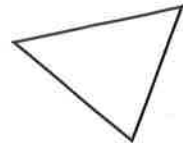


1.

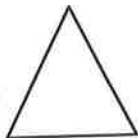


2.

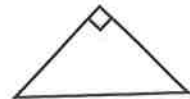




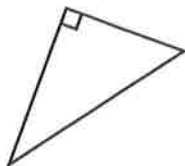
3.

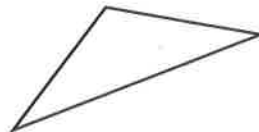


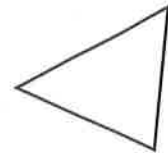




4.







Lesson 13.1 The Order of Operations

The **order of operations** is used to find the value of an expression with more than one operation.

1. Do all operations within parentheses.
2. Do all multiplications and divisions in order, from left to right.
3. Do all additions and subtractions in order from left to right.

$$3 \times (4 + 5) + 6 \div 3$$

$$3 \times 9 + 6 \div 3$$

$$27 + 2$$

$$29$$

Do the operation inside the parentheses.
Multiply and divide from left to right.
Add.

Name the operation that should be done first.

a

1. $7 \times 3 + 2$ _____

b

$2 + 3 \times 5$ _____

c

$4 + 3 - 5$ _____

2. $8 - 6 + 4$ _____

$7 + 9 \div 3$ _____

$12 \div 3 \times 5$ _____

3. $(3 + 5) \times (3 + 1)$ _____

$(5 - 3) \div 2$ _____

$(2 + 5) \times 3$ _____

Find the value of each expression.

a

4. $5 \times (5 - 3)$ _____

b

$5 + 4 \times 3 + 6$ _____

5. $20 - 4 \times 3$ _____

$(32 \div 8) \times 2$ _____

6. $15 \div 3 + 16 \div 4$ _____

$4 \times 3 \div 6 - 1$ _____

7. $20 \div 5 \times 2$ _____

$(7 \times 8) - (4 \times 9)$ _____

8. $6 \times 5 - 5 \times 4$ _____

$84 \div (8 + 6) \div 3$ _____

9. $(7 - 3) \times 2$ _____

$16 \div (8 - 6)$ _____

10. $(2 \times 5) \times 4$ _____

$2 \times (5 \times 4)$ _____

11. $8 - (5 + 2)$ _____

$(8 - 5) + 2$ _____

12. $4 \times (5 + 3)$ _____

$(4 \times 5) + (4 \times 3)$ _____

Lesson 13.4 Variable Expressions and Equations

A **variable** is a symbol, usually a letter of the alphabet, that stands for an unknown number, or quantity. $a = \text{variable}$

An **algebraic expression** is a combination of numbers, variables, and at least one operation. $x + 13$

A **term** is a number, variable, product, or quotient in an algebraic expression. In $3a + 5$, $3a$ is a term and 5 also is a term.

The term $3a$ means $3 \times a$. The number 3 is the coefficient of a . A **coefficient** is a number that multiplies a variable.

In the expression $x + 5$, the coefficient of x is understood to be 1 .

An **equation** is a sentence that contains an equal sign. $x + 13 = 25$

Identify each of the following as an expression or an equation.

- | | | |
|-------------------------------|---------------------------------|----------------------------------|
| 1. $3 + x$ _____ ^a | $7 + 4 = 11$ _____ ^b | $55 \times n$ _____ ^c |
| 2. $x - 7 = 15$ _____ | $b - 45$ _____ | $24 = 6 \times 4$ _____ |

For each term below, identify the coefficient and the variable.

- | | |
|---|--|
| 3. $3x$ coefficient _____ variable _____ ^a | $4y$ coefficient _____ variable _____ ^b |
| 4. z coefficient _____ variable _____ | $5n$ coefficient _____ variable _____ |
| 5. $7b$ coefficient _____ variable _____ | m coefficient _____ variable _____ |
| 6. r coefficient _____ variable _____ | $6d$ coefficient _____ variable _____ |

Translate each phrase into an algebraic expression.

- | | |
|-----------------------------|-----------------------------------|
| 7. five more than n _____ | eight decreased by x _____ |
| 8. x added to seven _____ | the product of n and 11 _____ |

Translate each sentence into an equation.

- | | |
|--|---|
| 9. Six times a number is 18 . _____ | Seventy less a number is 29 . _____ |
| 10. Eight divided by a number is 2 . _____ | The product of 7 and 12 is 84 . _____ |

Write the following expressions in words.

11. $6 - n = 3$ _____
12. $5 \times 13 = 65$ _____

Lesson 13.7 Exponents and Scientific Notation

A **power** of a number represents repeated multiplication of the number by itself.
 $10^3 = 10 \times 10 \times 10$ and is read 10 to the third power.

In **exponential** numbers, the **base** is the number that is multiplied, and the **exponent** represents the number of times the base is used as a factor. In 10^3 , 10 is the base and 3 is the exponent.

$$2^5 \text{ means } 2 \text{ is used as a factor } 5 \text{ times.}$$

$$2 \times 2 \times 2 \times 2 \times 2 = 32 \quad 2^5 = 32$$

Scientific notation for a number is expressed by writing the number as the product of a number greater than or equal to one, but less than ten and a power of ten.

$$3000 \text{ can be written as } 3 \times 1000 \text{ or } 3 \times 10^3.$$

$$3 \times 10^3 \text{ is scientific notation for } 3000.$$

Some powers of 10 are shown in the table at right.

10^1	10	10
10^2	10×10	100
10^3	$10 \times 10 \times 10$	1000
10^4	$10 \times 10 \times 10 \times 10$	10000
10^5	$10 \times 10 \times 10 \times 10 \times 10$	100000

Use the table above to write these numbers in scientific notation.

- | a | b | c |
|------------------|---------------|--------------|
| 1. 30 _____ | 4,000 _____ | 50,000 _____ |
| 2. 600,000 _____ | 700 _____ | 90 _____ |
| 3. 40,000 _____ | 100,000 _____ | 400 _____ |

Write each power as the product of factors.

- | | | |
|-----------------|----------------------|----------------------|
| 4. 3^3 _____ | 5 ⁵ _____ | 1 ⁶ _____ |
| 5. 12^2 _____ | 8^3 _____ | 6^3 _____ |
| 6. 7^4 _____ | 4^4 _____ | 11^4 _____ |

Use exponents to write these numbers.

- | | | |
|---|--------------------------------|--|
| 7. $3 \times 3 \times 3$ _____ | 8 × 8 _____ | 7 × 7 × 7 × 7 × 7 _____ |
| 8. 24×24 _____ | $4 \times 4 \times 4$ _____ | $6 \times 6 \times 6 \times 6 \times 6 \times 6$ _____ |
| 9. $2 \times 2 \times 2 \times 2$ _____ | $38 \times 38 \times 38$ _____ | $5 \times 5 \times 5 \times 5 \times 5$ _____ |

Evaluate each expression.

- | | | |
|----------------------------|---------------------------------|---------------------------------|
| 10. a^4 if $a = 2$ _____ | x ³ if $x = 4$ _____ | n ⁷ if $n = 1$ _____ |
| 11. n^2 if $n = 8$ _____ | b^4 if $b = 3$ _____ | x^3 if $x = 5$ _____ |
| 12. a^5 if $a = 3$ _____ | x^3 if $x = 6$ _____ | n^2 if $n = 11$ _____ |