Test Forms

Saxon
Math 87
An Incremental Development
SECOND EDITION

HAKE
SAXON

Math 87: An Incremental Development
Second Edition

Test Forms

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Homeschool Packet

for

Saxon Math 87

An Incremental Development, Second Edition

Contents

Homeschool Packet

## for

Math 87

Second Edition
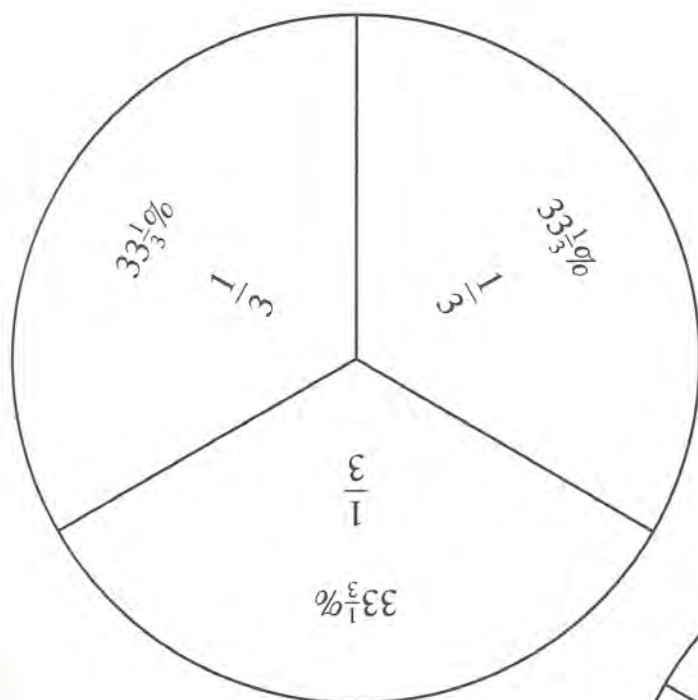

Activity Masters

Instructions

The following Activity Masters are referenced in the *Math 87, Second Edition*, book. The Activity Masters may be reproduced so that copies are available for students to use during the appropriate lesson or investigation. We suggest students color-code the front and back of their copies of the fraction manipulatives before cutting them.

Activity Master 2—Thirds, Sixths, Twelfths

For use with Investigation 1

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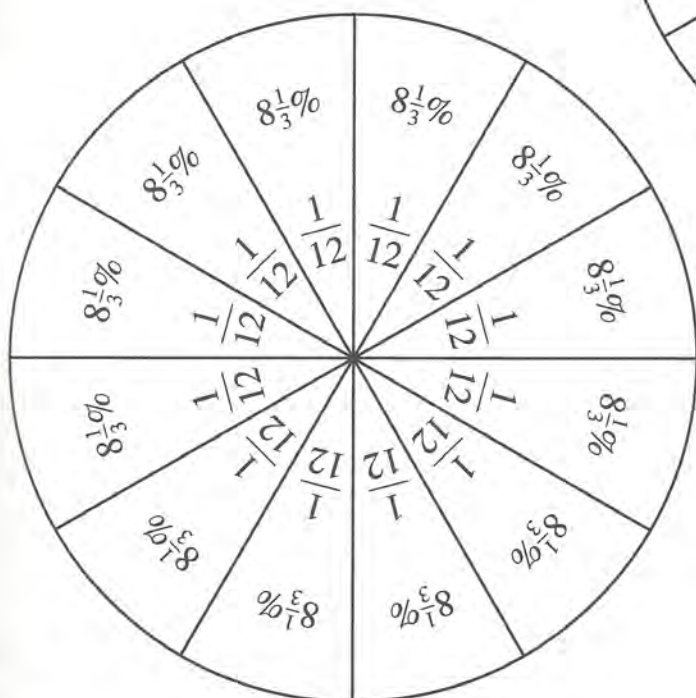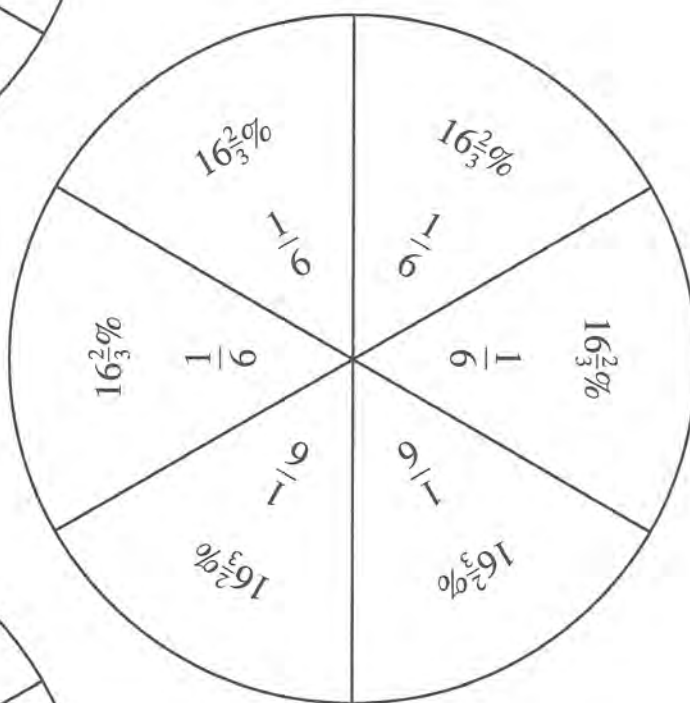
Activity Master 3—Measuring Angles

For use with Lesson 17

Use a protractor to find the measures of the following angles.

1. m∠AOB _____

2. m∠AOC _____

3. m∠EOD _____

4. m∠AOD _____

5. m∠EOB _____

6. m∠BOG _____

7. m∠EOF _____

8. m∠EOG _____

9. m∠AOF _____

10. m∠EOA _____

11. m∠DOB _____

12. m∠COF _____
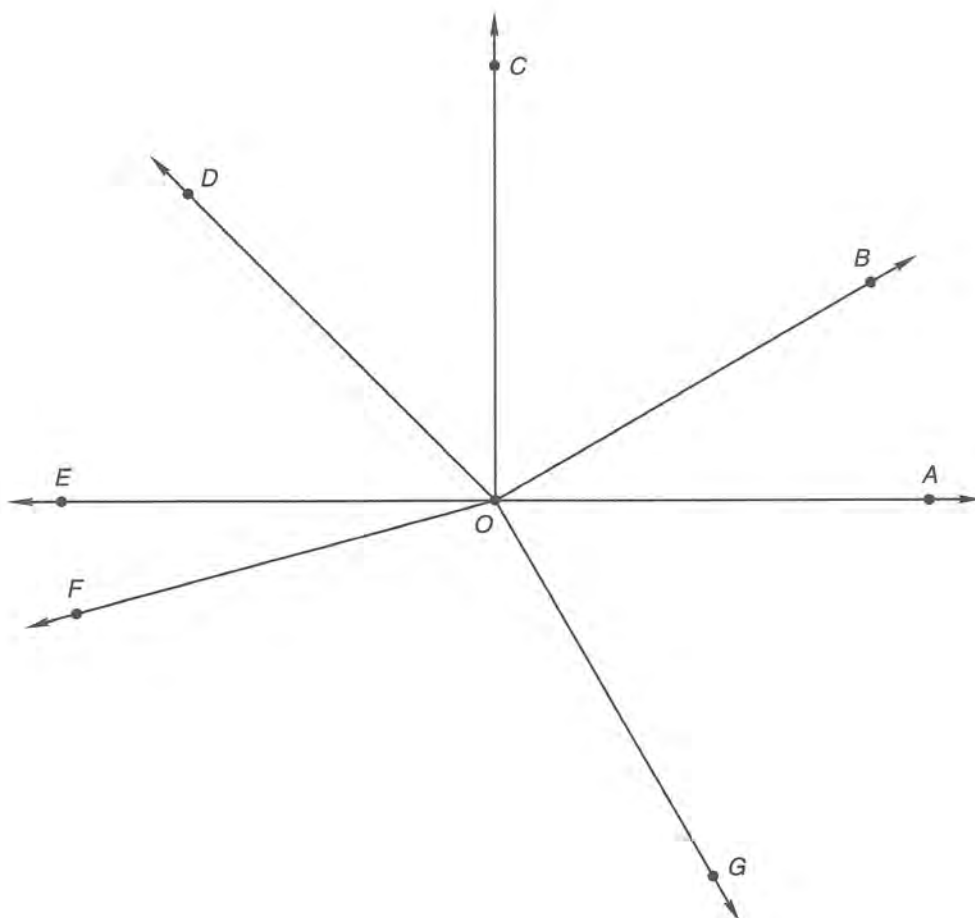
Activity Master 4—Coordinate Plane

For use with Investigation 3

Math 87, Second Edition
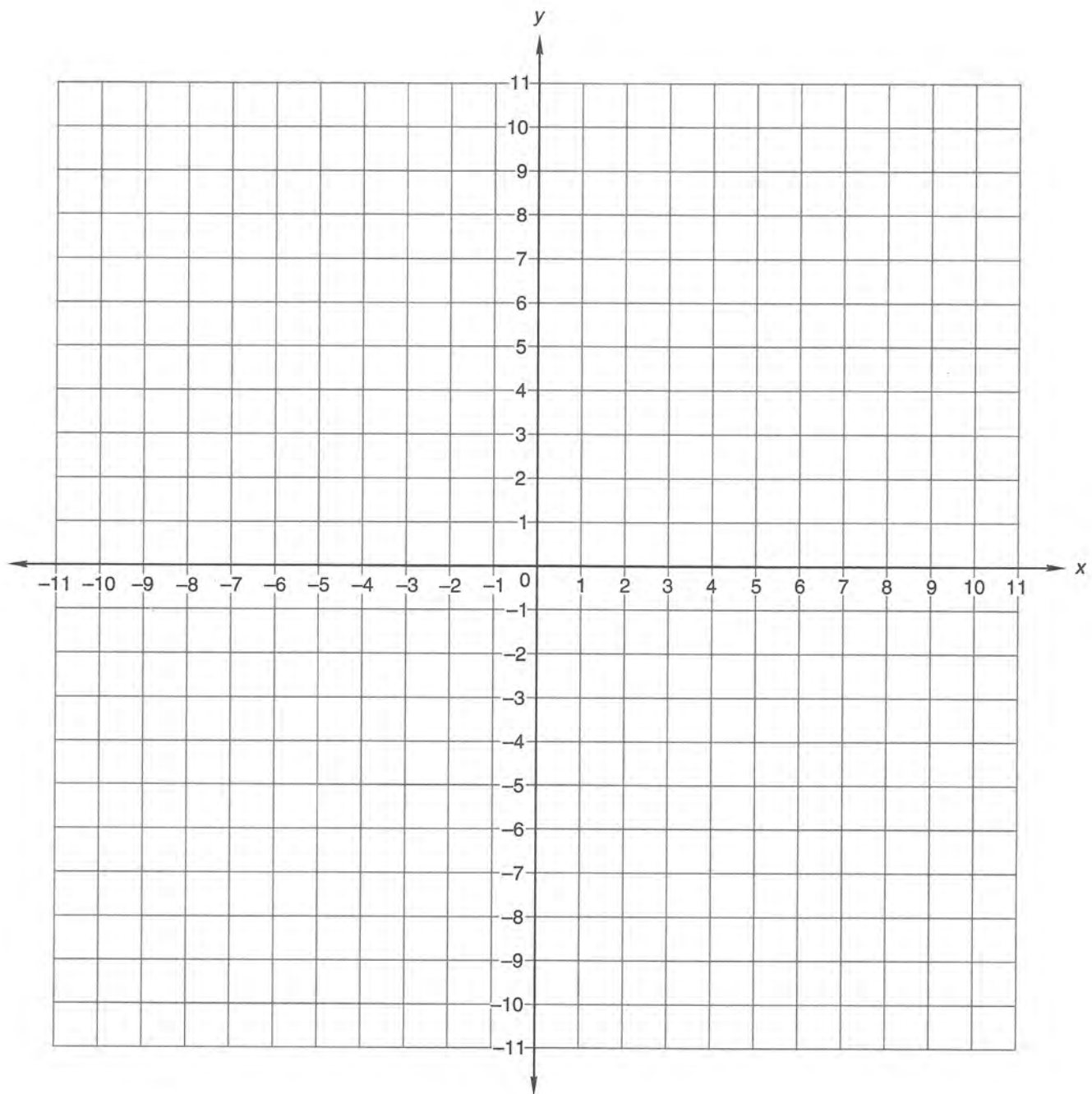
Activity Master 5—Probability Experiment

For use with Investigation 10

Section A: Possible outcomes of rolling a pair of dice

Outcome of First Die

	1	2	3	4	5	6
1	2	3	4	5	6	7
2	3	4	5	6	7	8
3	4	5	6	7	8	9
4	5	6	7	8	9	10
5	6	7	8	9	10	11
6	7	8	9	10	11	12

Outcome of Second Die

Section B: Theoretical outcome of 36 rolls of a pair of dice

Number of Occurrences
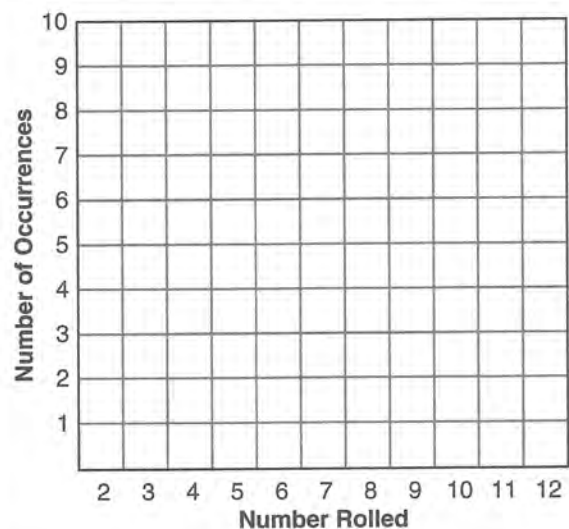
Number Rolled

Section C: Actual results of rolling a pair of dice 36 times

Number Rolled	Tally
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	

Number of Occurrences

Number Rolled
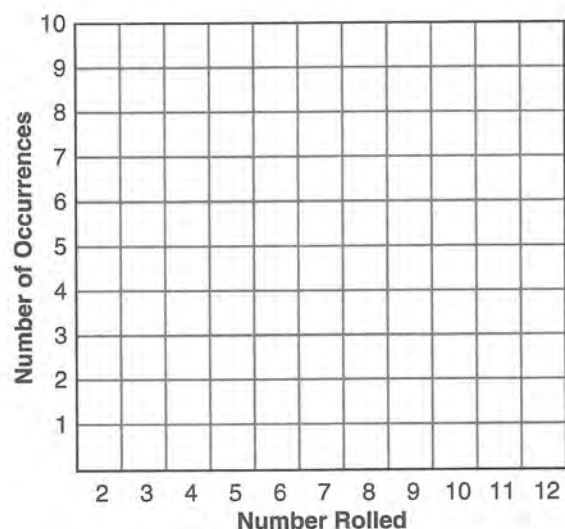
Section D: Possible reasons for a difference between theoretical outcome and actual results

Activity Master 6—Slope

For use with Lesson 107

Calculate the slope of each line *a–h* below.

1. Slope of line *a*: _____

2. Slope of line *b*: _____

3. Slope of line *c*: _____

4. Slope of line *d*: _____

5. Slope of line *e*: _____

6. Slope of line *f*: _____

7. Slope of line *g*: _____

8. Slope of line *h*: _____
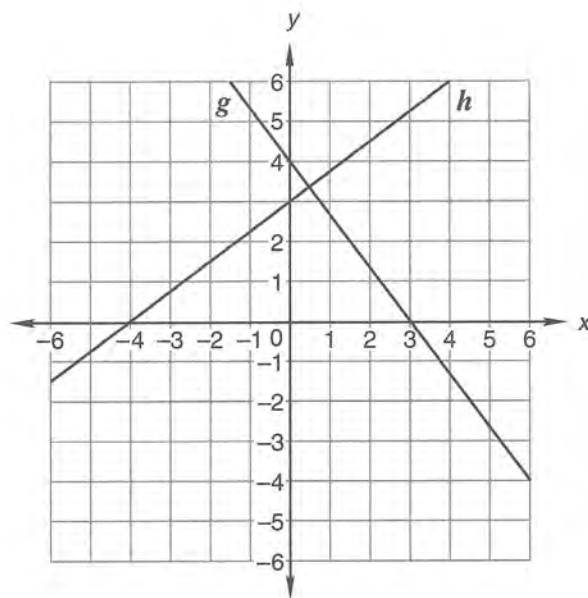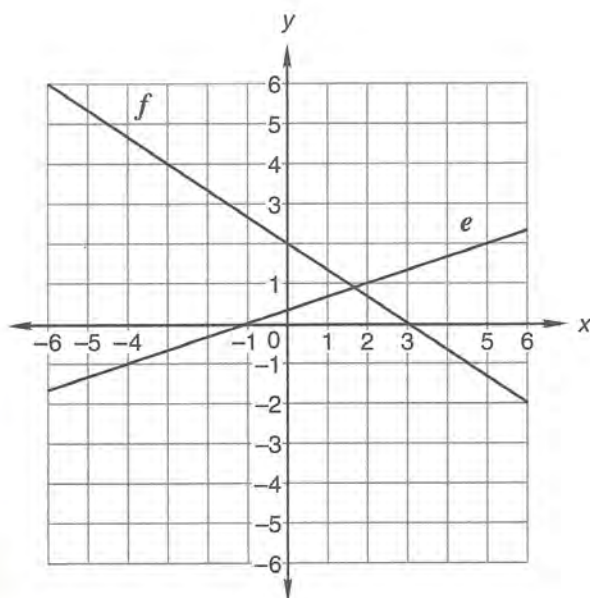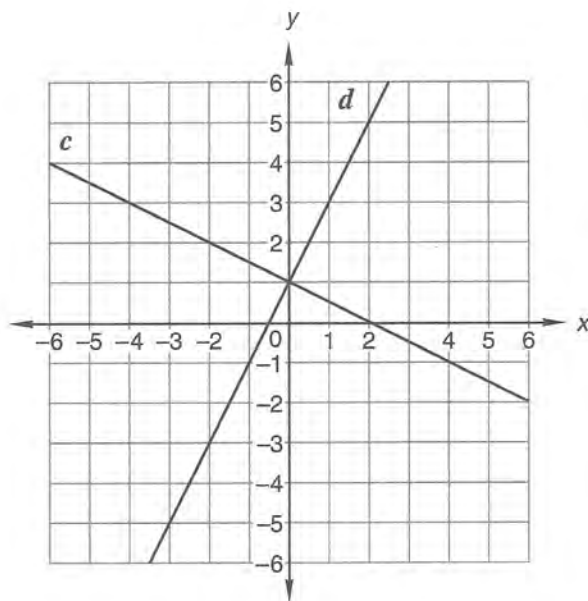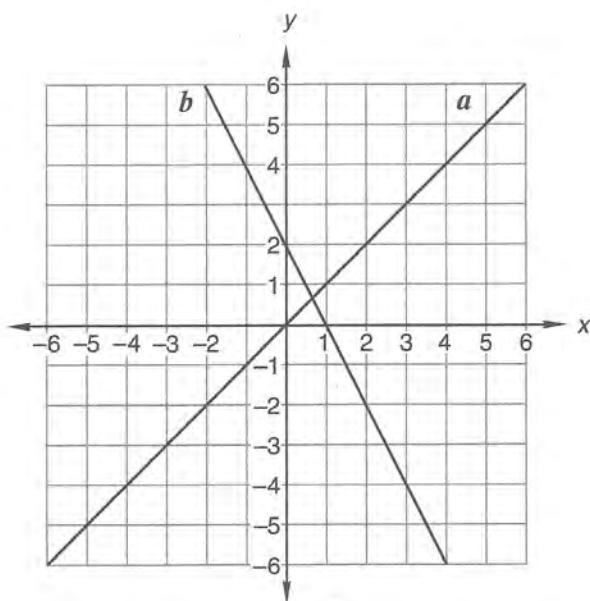
Activity Master 7—Square Centimeter Grid

For use with Investigation 11

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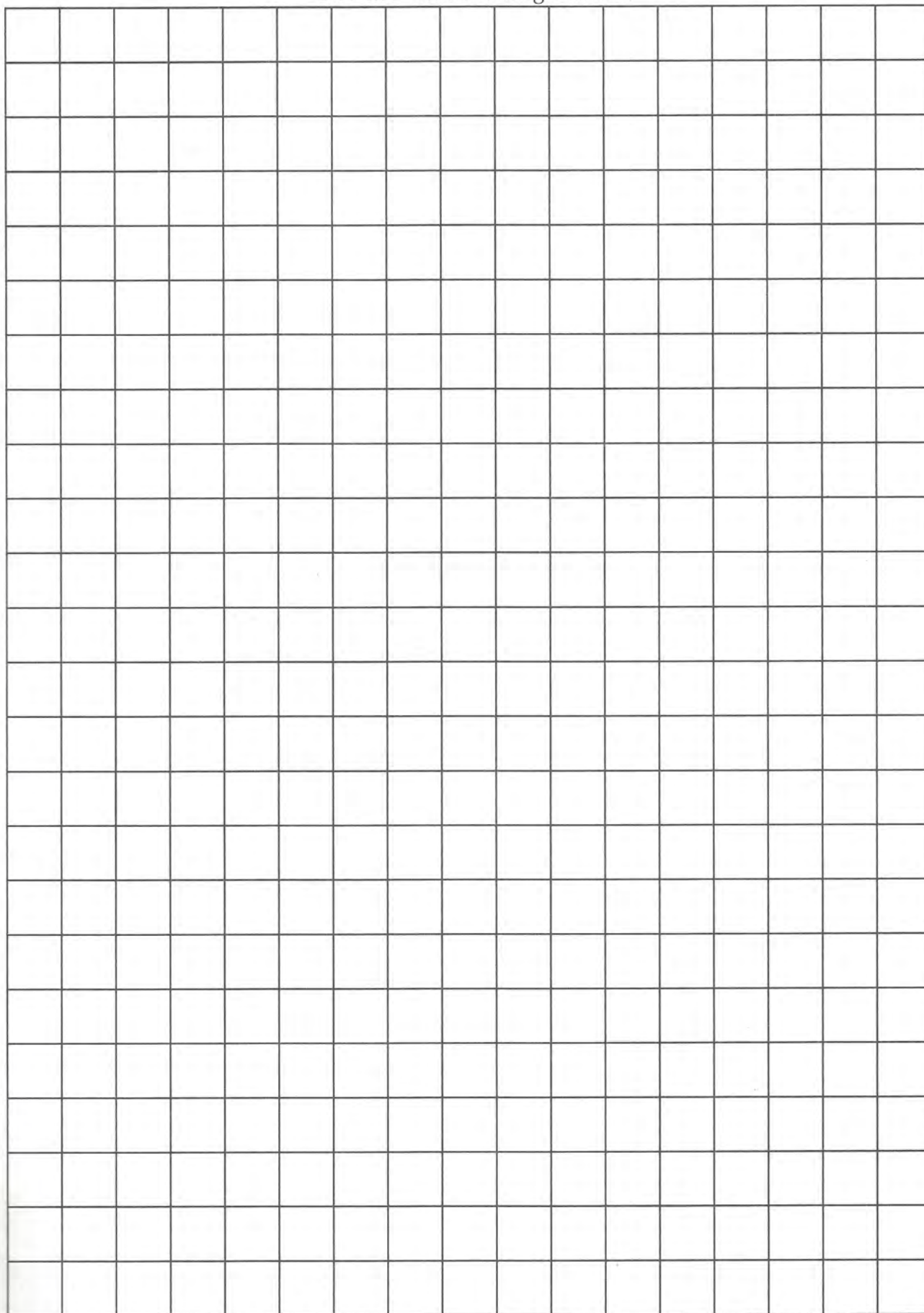
Activity Master 8—Pythagorean Puzzle

For use with Investigation 12

Carefully cut out right triangle *ABC* and the squares drawn on the legs of the triangle. Then cut each square into four parts and reassemble all eight parts to form a square on the hypotenuse of △*ABC*. Completing this puzzle illustrates that the sum of the areas of the squares drawn on the legs of a right triangle equals the area of a square drawn on the hypotenuse.

Homeschool Packet

for
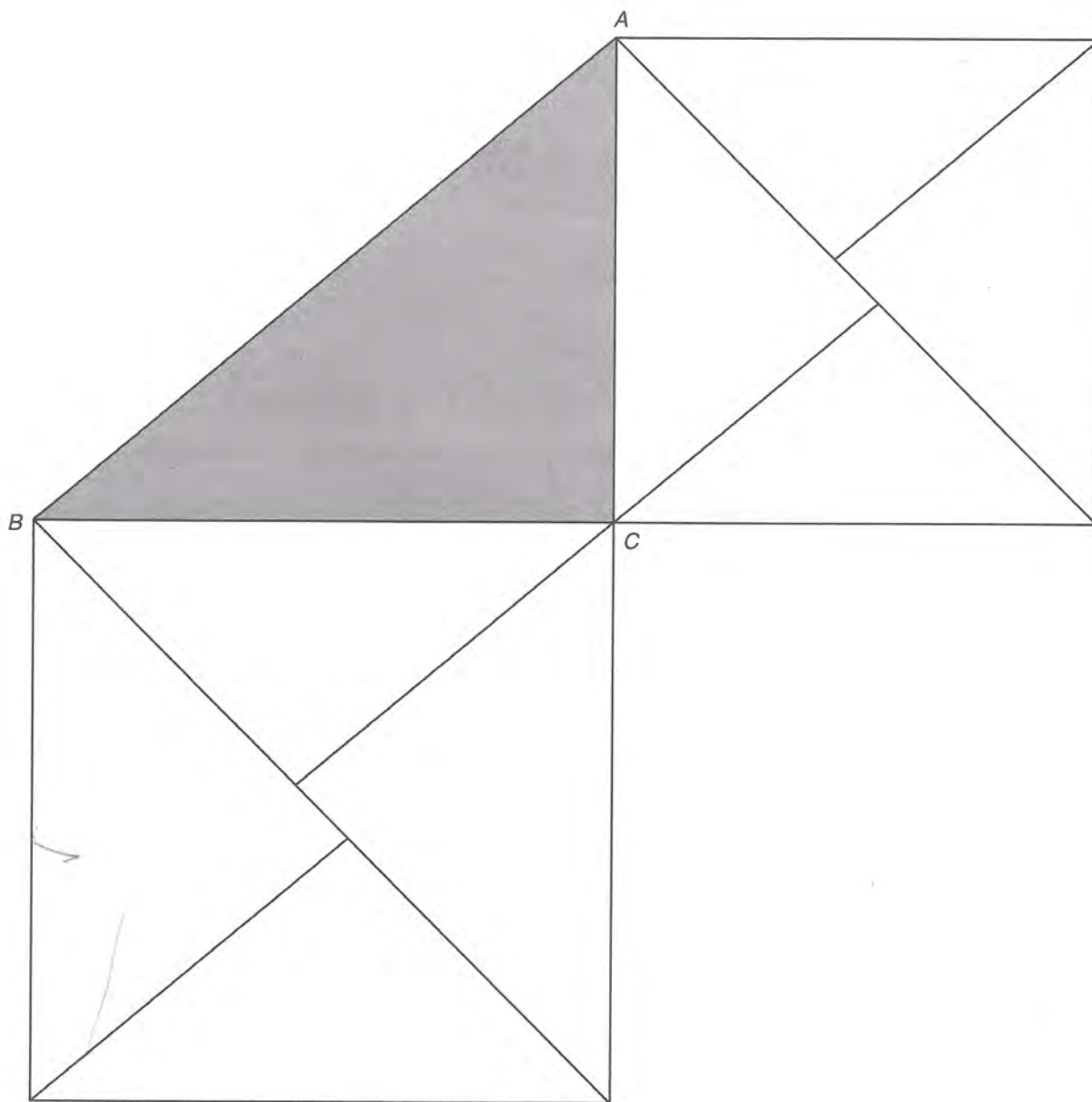
Math 87

Second Edition

Facts Practice Forms

Instructions

Begin each day's session with a facts practice and limit the testing time to five minutes or less. The rule of thumb for timing a facts practice test is one minute for every 20 questions. For example, five minutes for a 100-question facts practice is a good beginning. Mental processes become fully automated after breaking this five-minute barrier. A student's performance on the facts practice also becomes markedly better after breaking this barrier. Two to three days after a student breaks the five-minute mark, the speed is often down to four minutes. The time element is very important.

The facts practice test forms may be copied as many times as necessary to complete the course for an individual student, or answers may be written on onionskin placed over the page. Begin by saying, "Ready, set, go," and time the student carefully. At the beginning of the course, quickly go over the answers. Later, it is not necessary to go over the questions daily. Initially, the challenge is to generate the proper response to the question. With practice, the challenge is no longer to get the right answer but rather to complete the task as quickly as possible. The student is racing to beat his/her previous record. The student should be asked to record his/her time at the top of the page.

Name _____   **Time** _____

6 × 8	5 × 7	3 × 3	6 × 2	4 × 7	9 × 3	8 × 5	2 × 4
7 × 2	4 × 5	8 × 2	8 × 6	2 × 9	5 × 6	9 × 7	4 × 9
8 × 9	7 × 9	2 × 6	3 × 8	7 × 8	9 × 6	3 × 2	6 × 7
5 × 2	3 × 7	8 × 7	6 × 3	2 × 2	7 × 7	9 × 8	4 × 3
7 × 6	8 × 8	4 × 8	3 × 5	8 × 3	9 × 5	2 × 7	5 × 8
6 × 6	2 × 3	4 × 4	5 × 3	9 × 9	3 × 9	8 × 4	7 × 3
4 × 6	7 × 5	3 × 6	6 × 9	5 × 4	9 × 4	2 × 5	6 × 4
5 × 9	3 × 4	6 × 5	2 × 8	7 × 4	4 × 2	5 × 5	9 × 2

Name _____ Time _____

Find the value of each variable.

$a + 12 = 20$ $a =$	$b - 8 = 10$ $b =$	$5c = 40$ $c =$
$\dfrac{d}{4} = 12$ $d =$	$11 + e = 24$ $e =$	$25 - f = 10$ $f =$
$10g = 60$ $g =$	$\dfrac{24}{h} = 6$ $h =$	$17 = j + 8$ $j =$
$20 = k - 5$ $k =$	$30 = 6m$ $m =$	$9 = \dfrac{n}{3}$ $n =$
$18 = 6 + p$ $p =$	$5 = 15 - q$ $q =$	$36 = 4r$ $r =$
$2 = \dfrac{16}{s}$ $s =$	$5 + 7 + t = 20$ $t =$	$u - 15 = 30$ $u =$
$8v = 48$ $v =$	$\dfrac{w}{3} = 6$ $w =$	$21 - x = 12$ $x =$
$y + 8 = 12$ $y =$	$36 = 3z$ $z =$	$\dfrac{48}{a} = 4$ $a =$
$b - 12 = 15$ $b =$	$75 = 3c$ $c =$	$\dfrac{d}{12} = 6$ $d =$
$36 = f + 24$ $f =$	$g - 24 = 24$ $g =$	$12h = 12$ $h =$

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Name _____   Time _____

Write each improper fraction as a mixed number or a whole number.

$\dfrac{5}{2} =$	$\dfrac{6}{3} =$	$\dfrac{7}{4} =$	$\dfrac{12}{5} =$	$\dfrac{8}{2} =$
$\dfrac{10}{3} =$	$\dfrac{15}{2} =$	$\dfrac{21}{4} =$	$\dfrac{15}{5} =$	$\dfrac{11}{8} =$
$2\dfrac{3}{2} =$	$4\dfrac{5}{4} =$	$3\dfrac{6}{2} =$	$3\dfrac{7}{4} =$	$6\dfrac{5}{2} =$

Write each mixed number as an improper fraction.

$1\dfrac{1}{2} =$	$2\dfrac{2}{3} =$	$3\dfrac{3}{4} =$	$2\dfrac{1}{2} =$	$4\dfrac{1}{5} =$
$6\dfrac{2}{3} =$	$2\dfrac{3}{4} =$	$3\dfrac{1}{3} =$	$4\dfrac{1}{2} =$	$2\dfrac{4}{5} =$
$1\dfrac{5}{6} =$	$5\dfrac{3}{4} =$	$1\dfrac{7}{8} =$	$3\dfrac{1}{6} =$	$2\dfrac{3}{10} =$

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Name _____   Time _____

$\frac{60}{100} =$	$\frac{2}{12} =$	$\frac{4}{16} =$	$\frac{2}{6} =$	$\frac{5}{10} =$
$\frac{50}{100} =$	$\frac{2}{16} =$	$\frac{8}{12} =$	$\frac{5}{100} =$	$\frac{3}{9} =$
$\frac{8}{16} =$	$\frac{2}{100} =$	$\frac{20}{100} =$	$\frac{6}{8} =$	$\frac{10}{100} =$
$\frac{2}{4} =$	$\frac{4}{10} =$	$\frac{90}{100} =$	$\frac{3}{12} =$	$\frac{6}{16} =$
$\frac{80}{100} =$	$\frac{9}{12} =$	$\frac{3}{6} =$	$\frac{12}{16} =$	$\frac{4}{8} =$
$\frac{6}{9} =$	$\frac{25}{100} =$	$\frac{4}{12} =$	$\frac{6}{10} =$	$\frac{40}{100} =$
$\frac{4}{100} =$	$\frac{2}{10} =$	$\frac{10}{16} =$	$\frac{10}{12} =$	$\frac{4}{6} =$
$\frac{14}{16} =$	$\frac{2}{8} =$	$\frac{6}{12} =$	$\frac{8}{10} =$	$\frac{75}{100} =$

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Name _____   Time _____

Write the word that completes each sentence.

1. The distance around a circle is its _____.

2. Every point on a circle is the same distance from the _____.

3. The distance across a circle through its center is its _____.

4. The distance from a circle to its center is its _____.

5. Two or more circles with the same center are _____ circles.

6. A segment between two points on a circle is a _____.

7. Part of a circumference is an _____.

8. A portion of a circle and its interior, bound by an arc and two radii, is a _____.

9. Half of a circle is a _____.

10. An angle whose vertex is the center of a circle is a _____ angle.

11. An angle whose vertex is on the circumference of a circle and whose sides include chords of the circle is an _____ angle.

12. A polygon within a circle all of whose vertices are on the circle is an _____ polygon.
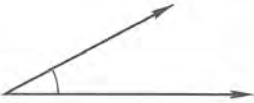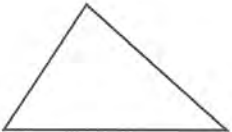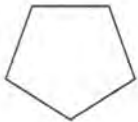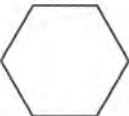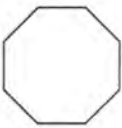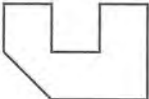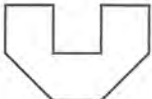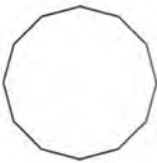
Illustrate answers 1–12 below.

1.	2.	3.	4.
5.	6.	7.	8.
9.	10.	11.	12.

Name _____   Time _____

Name each illustrated figure.

1. _____	2. _____	3. _____
4. _____	5. _____	6. _____
7. _____	8. _____	9. _____
10. _____	11. _____	12. _____
13. _____	14. _____	15. _____

16. A polygon whose sides are equal in length and whose angles are equal in measure is a _____ polygon.

Test G — + − × ÷ Fractions   **Facts Practice**

Name _____   **Time** _____

Reduce the answers.

$\dfrac{2}{3} + \dfrac{2}{3} =$	$\dfrac{2}{3} - \dfrac{2}{3} =$	$\dfrac{2}{3} \times \dfrac{2}{3} =$	$\dfrac{2}{3} \div \dfrac{2}{3} =$
$\dfrac{3}{4} + \dfrac{1}{4} =$	$\dfrac{3}{4} - \dfrac{1}{4} =$	$\dfrac{3}{4} \times \dfrac{1}{4} =$	$\dfrac{3}{4} \div \dfrac{1}{4} =$
$\dfrac{2}{3} + \dfrac{1}{2} =$	$\dfrac{2}{3} - \dfrac{1}{2} =$	$\dfrac{2}{3} \times \dfrac{1}{2} =$	$\dfrac{2}{3} \div \dfrac{1}{2} =$
$\dfrac{3}{4} + \dfrac{2}{3} =$	$\dfrac{3}{4} - \dfrac{2}{3} =$	$\dfrac{3}{4} \times \dfrac{2}{3} =$	$\dfrac{3}{4} \div \dfrac{2}{3} =$
$\dfrac{2}{5} + \dfrac{1}{4} =$	$\dfrac{2}{5} - \dfrac{1}{4} =$	$\dfrac{2}{5} \times \dfrac{1}{4} =$	$\dfrac{2}{5} \div \dfrac{1}{4} =$
$\dfrac{1}{2} + \dfrac{5}{8} =$	$\dfrac{5}{8} - \dfrac{1}{2} =$	$\dfrac{1}{2} \times \dfrac{5}{8} =$	$\dfrac{1}{2} \div \dfrac{5}{8} =$

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Name _____   **Time** _____

Complete each equivalent measure.

Customary Units   Metric Units

Linear Measure   Linear Measure

1. 1 foot = _____ inches   **19.** 1 centimeter = _____ millimeters

2. 1 yard = _____ inches   **20.** 1 meter   = _____ centimeters

3. 1 yard = _____ feet   **21.** 1 meter   = _____ millimeters

4. 1 mile = _____ feet   **22.** 1 kilometer = _____ meters

5. 1 mile = _____ yards

Area Measure

Area Measure   **23.** 1 meter^2 = _____ centimeters^2

6. 1 foot^2 = _____ inches^2 **24.** 1 kilometer^2 = _____ meters^2

7. 1 yard^2 = _____ feet^2

Volume Measure

Volume Measure   **25.** 1 meter^3 = _____ centimeters^3

8. 1 yard^3 = _____ feet^3

Mass

Weight   **26.** 1 gram   = _____ milligrams

9. 1 pound = _____ ounces   **27.** 1 kilogram = _____ grams

10. 1 ton   = _____ pounds   **28.** 1 metric ton = _____ kilograms

Liquid Measure   Capacity

11. 1 pint   = _____ ounces   **29.** 1 liter = _____ milliliters

12. 1 pint   = _____ cups   **30.** One milliliter of water has a volume of

13. 1 quart = _____ pints   _____ and a mass of _____. One

14. 1 gallon = _____ quarts   thousand cm^3 of water fills a

                                                       _____-liter container and has a

Temperature   mass of _____ kilogram.

15. Water freezes at _____°F.

16. Water boils at _____°F.   Temperature

17. Normal body temperature is _____°F.   **31.** Water freezes at _____°C.

                                                       32. Water boils at _____°C.

Customary to Metric   **33.** Normal body temperature is _____°C.

18. 1 inch = _____ centimeters

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Name _____   Time _____

Find the number that completes each proportion.

$\dfrac{3}{4} = \dfrac{a}{12}$ $a =$	$\dfrac{3}{4} = \dfrac{12}{b}$ $b =$	$\dfrac{c}{5} = \dfrac{12}{20}$ $c =$	$\dfrac{2}{d} = \dfrac{12}{24}$ $d =$
$\dfrac{4}{10} = \dfrac{e}{30}$ $e =$	$\dfrac{8}{12} = \dfrac{4}{f}$ $f =$	$\dfrac{g}{10} = \dfrac{10}{5}$ $g =$	$\dfrac{5}{h} = \dfrac{6}{18}$ $h =$
$\dfrac{15}{20} = \dfrac{i}{40}$ $i =$	$\dfrac{25}{100} = \dfrac{5}{j}$ $j =$	$\dfrac{k}{30} = \dfrac{3}{9}$ $k =$	$\dfrac{5}{m} = \dfrac{10}{100}$ $m =$
$\dfrac{50}{100} = \dfrac{n}{30}$ $n =$	$\dfrac{20}{15} = \dfrac{60}{p}$ $p =$	$\dfrac{q}{40} = \dfrac{75}{100}$ $q =$	$\dfrac{5}{r} = \dfrac{4}{16}$ $r =$
$\dfrac{2}{5} = \dfrac{s}{100}$ $s =$	$\dfrac{6}{8} = \dfrac{9}{t}$ $t =$	$\dfrac{u}{16} = \dfrac{8}{4}$ $u =$	$\dfrac{60}{v} = \dfrac{3}{2}$ $v =$
$\dfrac{8}{10} = \dfrac{w}{100}$ $w =$	$\dfrac{9}{12} = \dfrac{36}{x}$ $x =$	$\dfrac{y}{30} = \dfrac{6}{20}$ $y =$	$\dfrac{24}{z} = \dfrac{8}{6}$ $z =$

Name _____   Time _____

0.8 + 0.4 =	0.8 × 0.4 =	0.8 ÷ 0.4 =
1.2 − 0.4 =	1.2 × 0.4 =	1.2 ÷ 0.4 =
1.2 + 0.04 =	1.2 × 0.04 =	1.2 ÷ 0.04 =
1.2 + 4 =	1.2 × 4 =	1.2 ÷ 4 =
6 − 0.3 =	6 × 0.3 =	6 ÷ 0.3 =
0.3 + 6 =	0.3 × 6 =	0.3 ÷ 6 =
0.01 − 0.01 =	0.01 × 0.01 =	0.01 ÷ 0.01 =

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Name _____   Time _____

Simplify each power or root.

$\sqrt{100} =$	$\sqrt{16} =$	$\sqrt{81} =$	$\sqrt{4} =$
$\sqrt{144} =$	$\sqrt{1} =$	$\sqrt{64} =$	$\sqrt{49} =$
$\sqrt{25} =$	$\sqrt{121} =$	$\sqrt{9} =$	$\sqrt{36} =$
$\sqrt{169} =$	$\sqrt{225} =$	$\sqrt{196} =$	$\sqrt{625} =$
$8^2 =$	$5^2 =$	$3^2 =$	$12^2 =$
$10^2 =$	$2^3 =$	$6^2 =$	$3^3 =$
$4^2 =$	$10^3 =$	$7^2 =$	$15^2 =$
$5^3 =$	$25^2 =$	$4^3 =$	$9^2 =$

Name _____   Time _____

Write each fraction as a decimal and as a percent. Write repeating decimals with a bar over the repetend.

Fraction	Decimal	Percent
$\frac{1}{2}$		
$\frac{1}{3}$		
$\frac{2}{3}$		
$\frac{1}{4}$		
$\frac{3}{4}$		
$\frac{1}{5}$		
$\frac{2}{5}$		
$\frac{3}{5}$		
$\frac{4}{5}$		
$\frac{1}{6}$		
$\frac{5}{6}$		
$\frac{1}{8}$		
$\frac{3}{8}$		
$\frac{5}{8}$		
$\frac{7}{8}$		
$\frac{1}{9}$		
$\frac{1}{10}$		
$\frac{3}{10}$		
$\frac{7}{10}$		
$\frac{9}{10}$		
$\frac{1}{20}$		
$\frac{1}{25}$		
$\frac{1}{50}$		
$\frac{1}{100}$		
$1\frac{1}{2}$		

Math 87, Second Edition

Name _____   Time _____

Complete each equivalent measure.   Record the factor indicated by each prefix.

1. 2 meters = _____ centimeters

2. 1.5 kilometers = _____ meters

3. 2.54 centimeters = _____ millimeters

4. 125 centimeters = _____ meters

5. 75 millimeters = _____ centimeters

6. 0.8 meter = _____ millimeters

7. 10 kilometers = _____ meters

8. 0.1 kilometer = _____ meters

9. 5000 meters = _____ kilometers

10. 50 centimeters = _____ meter

11. 50 centimeters = _____ millimeters

12. 2 liters = _____ milliliters

13. 250 milliliters = _____ liter

14. 4 kilograms = _____ grams

15. 2.5 grams = _____ milligrams

16. 500 milligrams = _____ gram

17. 0.5 kilogram = _____ grams

18. Two liters of water has a volume of

_____ cubic centimeters and a mass

of _____ kilograms.

	Prefix	Factor
19.	kilo-	
20.	hecto-	
21.	deka-	
	(unit)	
22.	deci-	
23.	centi-	
24.	milli-	
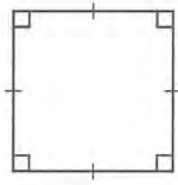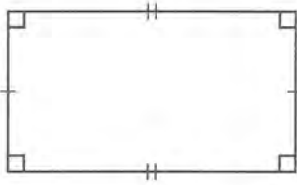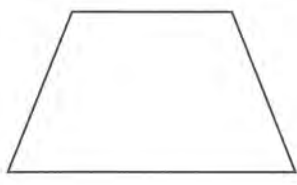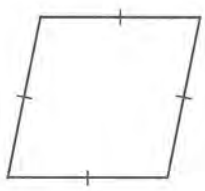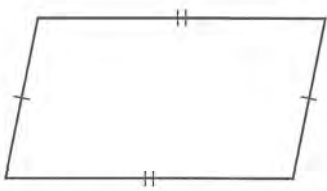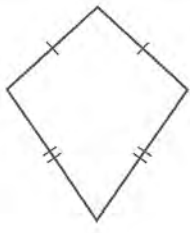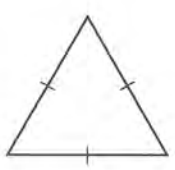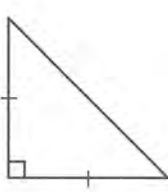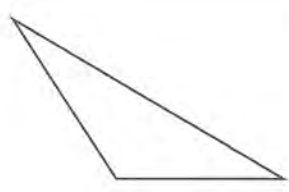
Name _____   Time _____

$3 + 1\frac{2}{3} =$	$3 - 1\frac{2}{3} =$	$3 \times 1\frac{2}{3} =$	$3 \div 1\frac{2}{3} =$
$1\frac{2}{3} + 1\frac{1}{2} =$	$1\frac{2}{3} - 1\frac{1}{2} =$	$1\frac{2}{3} \times 1\frac{1}{2} =$	$1\frac{2}{3} \div 1\frac{1}{2} =$
$2\frac{1}{2} + 1\frac{2}{3} =$	$2\frac{1}{2} - 1\frac{2}{3} =$	$2\frac{1}{2} \times 1\frac{2}{3} =$	$2\frac{1}{2} \div 1\frac{2}{3} =$
$4\frac{1}{2} + 2\frac{1}{4} =$	$4\frac{1}{2} - 2\frac{1}{4} =$	$4\frac{1}{2} \times 2\frac{1}{4} =$	$4\frac{1}{2} \div 2\frac{1}{4} =$
$6\frac{2}{3} + 3\frac{3}{4} =$	$6\frac{2}{3} - 3\frac{3}{4} =$	$6\frac{2}{3} \times 3\frac{3}{4} =$	$3\frac{3}{4} \div 6\frac{2}{3} =$

Name _____   Time _____

Select from the words at the bottom of the page to describe each figure.

1.	2.	3.
_____		
_____	_____	_____
_____	_____	
_____		

4.	5.	6.
_____	_____	_____
_____		

7.	8.	9.
_____	_____	_____
_____	_____	_____
_____		

Word List:

kite	rectangle	isosceles triangle	right triangle
trapezoid	rhombus	scalene triangle	acute triangle
parallelogram	square	equilateral triangle	obtuse triangle

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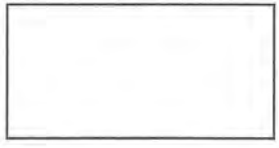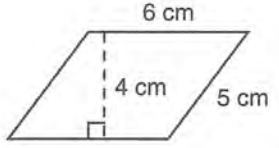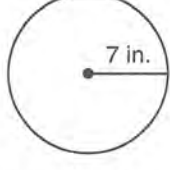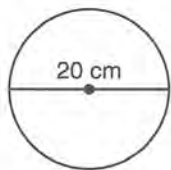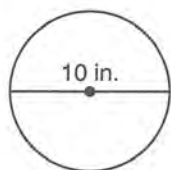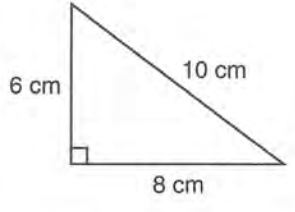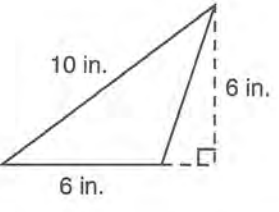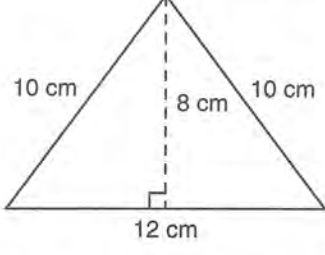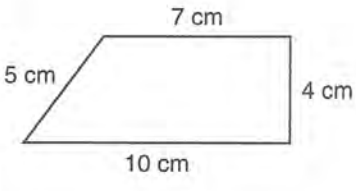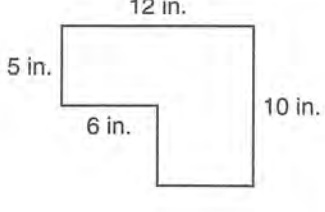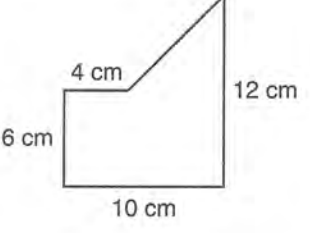
Name _____   Time _____

$(-8) + (-2) =$	$(-8) - (-2) =$	$(-8)(-2) =$	$\dfrac{-8}{-2} =$
$(-9) + (+3) =$	$(-9) - (+3) =$	$(-9)(+3) =$	$\dfrac{-9}{+3} =$
$12 + (-2) =$	$12 - (-2) =$	$(12)(-2) =$	$\dfrac{12}{-2} =$
$(+12) + (+6) =$	$(+12) - (+6) =$	$(+12)(+6) =$	$\dfrac{+12}{+6} =$
$-20 + (+5) =$	$-20 - (+5) =$	$(-20)(+5) =$	$\dfrac{-20}{+5} =$
$(-15) + (-3) =$	$(-15) - (-3) =$	$(-15)(-3) =$	$\dfrac{-15}{-3} =$
$(+30) + (-6) =$	$(+30) - (-6) =$	$(+30)(-6) =$	$\dfrac{+30}{-6} =$
$(-5) + (-6) + (-2) =$	$(-5) - (-6) - (-2) =$	$(-5)(-6)(-2) =$	$\dfrac{(-5)(-6)}{(-2)} =$

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Name _____   **Time** _____

Find the area of each figure. Angles that look like right angles are right angles.

1.

10 cm

10 cm

_____

2.

8 in.

4 in.

_____

3.

6 cm

4 cm

5 cm

_____

4.

7 in.

Use $\frac{22}{7}$ for π.

_____

5.

20 cm

Use 3.14 for π.

_____

6.

10 in.

Leave π as π.

_____

7.

6 cm

10 cm

8 cm

_____

8.

10 in.

6 in.

6 in.

_____

9.

10 cm

8 cm

10 cm

12 cm

_____

10.

7 cm

5 cm

4 cm

10 cm

_____

11.

12 in.

5 in.

6 in.

10 in.

_____

12.

4 cm

12 cm

6 cm

10 cm

_____

Name _____   Time _____

Write each number in the proper form of scientific notation.

$186{,}000 =$	$0.0005 =$
$30{,}500{,}000 =$	$36 \times 10^4 =$
$0.35 \times 10^5 =$	$48 \times 10^{-3} =$
2.5 billion $=$	15 thousandths $=$
12 million $=$	$\dfrac{1}{1{,}000{,}000} =$

Write each number in standard form.

$1 \times 10^6 =$	$1 \times 10^{-6} =$
$2.4 \times 10^4 =$	$5 \times 10^{-4} =$
$4.75 \times 10^5 =$	$2.5 \times 10^{-3} =$
$3.125 \times 10^3 =$	$1.25 \times 10^{-2} =$
$3.025 \times 10^2 =$	$1.05 \times 10^{-1} =$

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Name _____ Time _____

$6 + 6 \times 6 - 6 \div 6 =$	$5 + 5^2 + 5 \div 5 - 5 \times 5 =$
$3^2 + \sqrt{4} + 5(6) - 7 + 8 =$	$6 \times 4 \div 2 - 6 \div 2 \times 4 =$
$4 + 2(3 + 5) - 6 \div 2 =$	$8 + 7 \times 6 - (5 + 4) \div 3 + 2 =$
$2 + 2[3 + 4(7 - 5)] =$	$3[10 + (6 - 4) - 3(2 + 1)] =$
$\dfrac{(4)(3)(2)}{4 - 3 + 2} =$	$\sqrt{1^3 + 2^3 + 3^3} =$
$\dfrac{6 + 8(7 - 5) - 2}{4(3) - (4 + 3)} =$	$(2 + 3)^2 + 5[4^2 - 2(3)] =$
$(-3) + (-3)(-3) - (-3) =$	$\sqrt{-3 - (3)(-3) - (-3)} =$
$\dfrac{3(-3) - (-3)(-3)}{(-3) - 3(-3)} =$	$\dfrac{(-3) - (-3) - \sqrt{3(3)}}{3^2 - 3(3) - 3} =$

Name _____   Time _____

$2x + 5 = 45$ $2x =$ $x =$	$3y + 4 = 22$ $3y =$ $y =$	$6w + 8 = 50$ $6w =$ $w =$
$5n - 3 = 32$ $5n =$ $n =$	$3m - 7 = 26$ $3m =$ $m =$	$8p - 9 = 47$ $8p =$ $p =$
$15 = 3a - 6$ $= 3a$ $= a$	$24 = 3b + 6$ $= 3b$ $= b$	$45 = 5c - 10$ $= 5c$ $= c$
$-2x + 9 = 25$ $-2x =$ $x =$	$\frac{3}{4}m + 12 = 36$ $\frac{3}{4}m =$ $m =$	$0.5w - 1.5 = 4.5$ $0.5w =$ $w =$
$-\frac{2}{3}n - 6 = 18$ $-\frac{2}{3}n =$ $n =$	$25 = 10 - 5y$ $= -5y$ $= y$	$-0.3f + 1.2 = 4.8$ $-0.3f =$ $f =$

Name _____   Time _____

Write each percent as a decimal and as a reduced fraction. Write repeating decimals with a bar over the repetend.

Percent	Decimal	Fraction
10%		
90%		
5%		
40%		
$12\frac{1}{2}\%$		
50%		
2%		
30%		
$87\frac{1}{2}\%$		
25%		
80%		
$33\frac{1}{3}\%$		
60%		
$62\frac{1}{2}\%$		
20%		
4%		
75%		
$66\frac{2}{3}\%$		
$37\frac{1}{2}\%$		
70%		
1%		
$16\frac{2}{3}\%$		
$83\frac{1}{3}\%$		
$8\frac{1}{3}\%$		
$11\frac{1}{9}\%$		

Name _____   Time _____

Simplify.

$6x + 2x =$	$6x - 2x =$	$(6x)(2x) =$	$\dfrac{6x}{2x} =$
$6xy + 2xy =$	$6xy - 2xy =$	$6xy(2xy) =$	$\dfrac{6xy}{2xy} =$
$x + y + x =$	$x + y - x =$	$(x)(y)(-x) =$	$\dfrac{xy}{x} =$
$3x + x + 3 =$	$3x - x - 3 =$	$(3x)(-x)(-3) =$	$\dfrac{(2x)(8xy)}{4y} =$
$3x + 2y + x - y =$		$5xy - 2x + xy - x =$	

Name _____   Time _____

Simplify and express each answer in the proper form of scientific notation.

$(1 \times 10^6)(1 \times 10^6) =$	$(3 \times 10^3)(3 \times 10^3) =$	$(4 \times 10^{-5})(2 \times 10^{-6}) =$
$(5 \times 10^5)(5 \times 10^5) =$	$(6 \times 10^{-3})(7 \times 10^{-4}) =$	$(3 \times 10^6)(2 \times 10^{-4}) =$
$(9 \times 10^{-6})(2 \times 10^2) =$	$(5 \times 10^8)(4 \times 10^{-2}) =$	$(2.5 \times 10^{-6})(4 \times 10^{-4}) =$
$\dfrac{8 \times 10^8}{2 \times 10^2} =$	$\dfrac{5 \times 10^6}{2 \times 10^3} =$	$\dfrac{9 \times 10^3}{3 \times 10^8} =$
$\dfrac{7.5 \times 10^3}{2.5 \times 10^6} =$	$\dfrac{2 \times 10^6}{4 \times 10^2} =$	$\dfrac{1 \times 10^3}{4 \times 10^8} =$
$\dfrac{6 \times 10^4}{2 \times 10^{-4}} =$	$\dfrac{8 \times 10^{-8}}{2 \times 10^{-2}} =$	$\dfrac{2.5 \times 10^{-4}}{5 \times 10^{-8}} =$

Homeschool Packet

for

Math 87

Second Edition

Test Forms

Instructions

Tests are an important component of the Saxon program. We believe that concepts and skills should be continually tested. However, tests should only be administered after the concepts and skills have been thoroughly practiced. Each test specifies when that particular test is to be given to the student. A schedule is also included on the back side of this page.

Note: Optional student answer forms are located at the back of this booklet. These forms provide sufficient writing space so that the student can show all of his/her work along with his/her answers. Answer forms may be copied as often as necessary to complete the course.

Math 87

Testing Schedule

Test to be administered:	Covers material up through:	Give after teaching:
Test 1	Lesson 5	Lesson 10
Test 2	Lesson 10	Lesson 15
Test 3	Lesson 15	Lesson 20
Test 4	Lesson 20	Lesson 25
Test 5	Lesson 25	Lesson 30
Test 6	Lesson 30	Lesson 35
Test 7	Lesson 35	Lesson 40
Test 8	Lesson 40	Lesson 45
Test 9	Lesson 45	Lesson 50
Test 10	Lesson 50	Lesson 55
Test 11	Lesson 55	Lesson 60
Test 12	Lesson 60	Lesson 65
Test 13	Lesson 65	Lesson 70
Test 14	Lesson 70	Lesson 75
Test 15	Lesson 75	Lesson 80
Test 16	Lesson 80	Lesson 85
Test 17	Lesson 85	Lesson 90
Test 18	Lesson 90	Lesson 95
Test 19	Lesson 95	Lesson 100
Test 20	Lesson 100	Lesson 105
Test 21	Lesson 105	Lesson 110
Test 22	Lesson 110	Lesson 115
Test 23	Lesson 115	Lesson 120
Test 24	Lesson 120	Lesson 120

1. If the product of 12 and 60 is divided by the sum of 12 and 36, what is the quotient?

2. Use the numbers 4 and 5 to illustrate the commutative property of multiplication.

3. Use digits and symbols to write "Negative five is less than positive five."

4. Use words to write 14328735.

5. What are the next three numbers in this sequence?

   $$63, 60, 57, 54, 51, \underline{\quad}, \underline{\quad}, \underline{\quad}, \ldots$$

6. Write 75,000 in expanded notation.

7. Compare: $-6 \bigcirc -8$

8. Show this subtraction problem on a number line: $6 - 3$

9. Use digits to write three million, forty thousand, seven hundred.

Find the missing number:

10.
$$\begin{array}{r} T \\ + \ \$5.50 \\ \hline \$12.00 \end{array}$$

11.
$$\begin{array}{r} B \\ - \ 4782 \\ \hline 2084 \end{array}$$

12.
$$\begin{array}{r} F \\ \times \ 7 \\ \hline \$51.80 \end{array}$$

13.
$$\begin{array}{r} 6048 \\ - \quad Y \\ \hline 2532 \end{array}$$

14.
$$\begin{array}{r} 15 \\ \times \ P \\ \hline 270 \end{array}$$

15.
$$\begin{array}{r} 1587 \\ + \quad C \\ \hline 2950 \end{array}$$

Simplify:

16. $9 \cdot 22 \cdot 25$

17. $1000 - (720 - 38)$

18. $6\overline{)38,154}$

19. $150(18)$

20. $\dfrac{\$41.30}{10}$

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Test 2

SHOW YOUR WORK

Name: _____

Give after Lesson 15

1. Two dimes is
   (a) what fraction of a dollar?   (b) what percent of a dollar?

2. How many $\frac{5}{8}$'s are in 1?   3. Write $9\frac{5}{8}$ as an improper fraction.

4. (a) Arrange these numbers in order from least to greatest: $8, -8, \frac{1}{8}, -\frac{1}{8}$.

   (b) List the numbers in part (a) that are not integers.

5. Use the numbers 6, 8, and 2 to illustrate the associative property of addition.

6. Subtract fifty-six million from three hundred million and use words to write the difference.

7. (a) List the factors of 66.   (b) List the factors of 55.
   (c) What numbers are factors of both 66 and 55?
   (d) What is the greatest common factor of 66 and 55?

8. Use digits and symbols to write "The product of four and one is less than the sum of four and one."

Find the missing number:

9. $\begin{array}{r} 3955 \\ +\quad C \\ \hline 7000 \end{array}$ 10. $\begin{array}{r} G \\ -\ \$4.20 \\ \hline \$6.50 \end{array}$ 11. $\begin{array}{r} 55 \\ \times\quad B \\ \hline 605 \end{array}$

12. Simplify: $\dfrac{1}{11} + \dfrac{2}{11}$

13. (a) What fraction of the rectangle is shaded?
    (b) What fraction of the rectangle is unshaded?
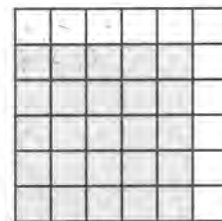
Simplify:

14. $\dfrac{7}{13} - \dfrac{6}{13}$ 15. $\dfrac{4}{7} \times \dfrac{4}{9}$

16. $8\overline{)34{,}594}$ 17. $90(\$7.44)$ 18. $\dfrac{3}{4} \cdot \dfrac{1}{8} \cdot \dfrac{5}{7}$

19. In quadrilateral $ABCD$, which segment appears to be parallel to segment AD?
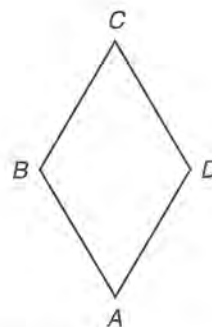
20. Name three segments in this figure.

Math 87, Second Edition
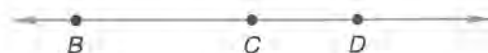
1. The population of Hinchton in 1991 was 22,374. In 1987, the population was only 14,998. How much did the population increase between 1987 and 1991?

2. Levi received a shipment of 13 boxes of T-shirts. Each box contained 18 T-shirts. How many T-shirts were in the shipment?

3. The product of 8 and 4 is how much greater than the sum of 8 and 4?

4. Gregory bought a model for $7.23, a jar of paint for $2.23, and a tube of glue for 98¢. How much did he spend in all?

5. How many years were there from 1556 to 1728?

6. If 29% of the students wore jeans, what percent of the students did not wear jeans?

7. Draw shaded circles to show that $1\frac{3}{8} = \frac{11}{8}$.

8. Complete each equivalent fraction.

   (a) $\frac{2}{3} = \frac{?}{48}$ (b) $\frac{5}{8} = \frac{?}{48}$

9. Find a fraction equal to $\frac{1}{5}$ that has a denominator of 10. Then subtract $\frac{1}{10}$ from that fraction. What is the difference?

10. (a) List the factors of 21.

    (b) List the factors of 66.

    (c) What numbers are factors of both 21 and 66?

    (d) What is the greatest common factor of 21 and 66?

11. Name three segments in this figure.

12. What mixed number is represented by point A on this number line?

Simplify:

13. $\frac{11}{22} + \frac{13}{22}$ 14. $\frac{8}{5} \cdot \frac{5}{4}$ 15. $5\overline{)38,519}$

16. $\frac{1060}{20}$ 17. $\begin{array}{r} 122 \\ \times\ 84 \\ \hline \end{array}$ 18. $(4 + 3)(3)$

Find the missing number:

19. $14t = 1820$ 20. $\$20.00 - Z = \$4.52$

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1. Great Grandma celebrated her eighty-fourth birthday in 1993. In what year was she born?

2. The farmer harvested 5000 bushels of barley from 40 acres. The crop produced an average of how many bushels of barley for each acre?

3. Two feet is what percent of one yard?

4. At the beginning of the day there were 689 tickets available for the ballgame. By the end of the day, all but 39 tickets were sold. How many tickets were sold?

5. The number seventy-one million is how much less than one billion? Use words to write the answer.

6. (a) Compare: $\frac{5}{16} + \left(\frac{3}{16} + \frac{7}{16} \right) \bigcirc \left(\frac{5}{16} + \frac{3}{16} \right) + \frac{7}{16}$

   (b) What property is illustrated by this comparison?

7. Use digits and symbols to write "Six minus nine equals negative three."

8. (a) What is the perimeter of this square?

   (b) What is the area of this square?

9. Simplify each fraction or mixed number.

   (a) $\frac{2}{16}$

   (b) $8\frac{10}{16}$

   13 ft

10. Write $2\frac{1}{4}$ as an improper fraction and multiply the improper fraction by $\frac{5}{9}$.

11. Complete each equivalent fraction.

    (a) $\frac{1}{2} = \frac{?}{40}$

    (b) $\frac{2}{5} = \frac{?}{40}$

12. Draw a 43° angle using a protractor.
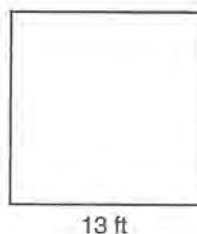
Find the missing number:

13.   3446
    $-$ N
    ⎯⎯⎯⎯
      1428

14. $30j = \$55.50$

15. Complete each equivalent fraction.

    (a) $\frac{1}{3} = \frac{?}{64}$

    (b) $\frac{1}{2} = \frac{?}{64}$

Simplify:

16. $\frac{3}{8} + \frac{5}{8} + \frac{1}{8}$

17. $\frac{17}{19} - \frac{11}{19}$

18. $\left(\frac{1}{4} \right)^2$

19. $\sqrt{256}$

20. $14(10 + 11)$

1. At The Book Shoppe, 800 books were packed in 25 boxes. If each box contained the same number of books, how many books were packed in each box?

2. How many years were there from 1383 to 1712?

3. Spencer paid $15 for an $11.76 lunch. How much money should he get back?

4. When Honor finished reading 181 pages of a 283-page book, she still had how many pages to read?

5. Draw a diagram of this statement. Then answer the questions that follow.

    Two ninths of the 81 fish in the tank were guppies.

    (a) How many of the fish in the tank were guppies?

    (b) How many of the fish in the tank were not guppies?

6. Use a compass and straight edge to inscribe a regular hexagon in a circle.

7. Write the prime factorization of 360.

8. Simplify each fraction or mixed number.

    (a) $3\dfrac{8}{5}$ (b) $\dfrac{105}{90}$ (c) $\dfrac{640}{780}$

9. Write the reciprocal of each of these numbers.

    (a) $\dfrac{3}{7}$ (b) $9\dfrac{2}{3}$ (c) 6

10. Complete each equivalent fraction.

    (a) $\dfrac{1}{4} = \dfrac{?}{72}$ (b) $\dfrac{7}{9} = \dfrac{?}{72}$

Solve:

11. $61 - c = 30$ 12. $g - 57 = 56$ 13. $15h = 465$

Simplify:

14. $8 - 1\dfrac{2}{3}$ 15. $6\dfrac{4}{7} + 6\dfrac{4}{7}$ 16. $6\dfrac{3}{7} - 2\dfrac{5}{7}$
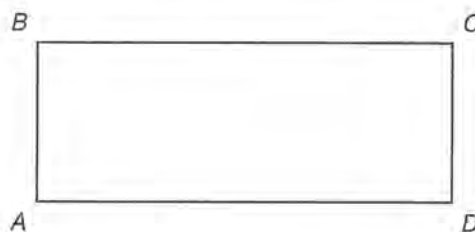
17. $\dfrac{2}{5} \cdot \dfrac{5}{8} \cdot \dfrac{8}{13}$ 18. $\dfrac{3}{7} \div \dfrac{7}{10}$ 19. $3^4 - \sqrt{441}$

20. Refer to rectangle *ABCD* to answer questions (a) and (b).

    (a) What side of the rectangle is parallel to side *CD*?

    (b) If *AD* is 29 mm and *AB* is 14 mm, what is the area of the rectangle?
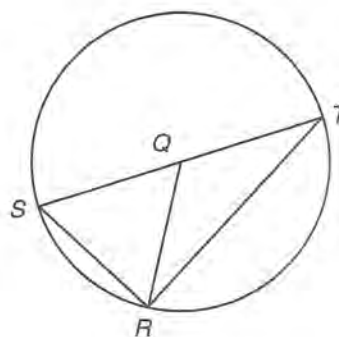
1. All of the members of the Pinewhite family are very tall. Their heights are 82 inches, 74 inches, 78 inches, 80 inches, and 76 inches. What is the average height of the 5 Pinewhites?

2. Tyler bought 9 pounds of peaches for $0.87 per pound and paid for them with a ten-dollar bill. How much money should he get back in change?

3. One month there were 4498 visitors at Inista Animal Park. Of these visitors, 2808 had discount entrance vouchers. How many visitors paid regular price?

4. The coordinates of three vertices of a rectangle are $(-1, 4)$, $(-1, -7)$, and $(8, -7)$.

   (a) What are the coordinates of the fourth vertex? (b) What is the area of the rectangle?

5. Change the percent to a fraction. Then draw a diagram of this statement and answer the questions that follow.

   The Chins completed 25% of their 2540-mile trip on the first day.

   (a) How many miles did they travel the first day?

   (b) How many miles of their trip do they still have to travel?

6. If the perimeter of a square is 7 feet, how many inches long is each side of the square?

7. (a) Round 68,261 to the nearest thousand. (b) Round 68,261 to the nearest hundred.

8. Estimate: $1641 \div 42$

9. Reduce: $\dfrac{160}{240}$

10. Compare: $\dfrac{7}{8} \bigcirc \dfrac{8}{7}$

11. What is the least common multiple of 10 and 8?

12. The figure shows a circle with center Q.

    (a) Which chord is a diameter?

    (b) Which inscribed angle appears to be a right angle?

13. (a) Write the prime factorization of 2025.

    (b) Find $\sqrt{2025}$.

Solve:

14. $9c = 4 \cdot 36$

15. $287 + r = 971$

16. $94 - h = 49$

Simplify:

17. $\dfrac{3}{5} + \dfrac{1}{2}$

18. $\dfrac{6}{7} - \dfrac{1}{8}$

19. $\left(\dfrac{2}{3} \cdot \dfrac{5}{6}\right) - \dfrac{2}{5}$

20. $5\dfrac{1}{3} \div 1\dfrac{7}{9}$

1. One month Lew's weekly grocery bills were $113.96, $99.21, $93.20, and $128.95. Find Lew's average weekly grocery bill.

2. The price was reduced from nine thousand, five hundred twenty-one dollars to three thousand, two hundred sixty-seven dollars. By how much was the price reduced?

3. A one-year subscription to the monthly magazine costs $41.40. The regular newsstand price is $4.25 per issue. How much is saved per year by paying the subscription price?

4. Ivan ran one lap in one minute and two seconds. Donovan ran one lap seven seconds faster than Ivan. How many seconds did it take Donovan to run one lap?

5. The perimeter of a square equals the perimeter of a regular heptagon. Each side of the square is 28 cm. How long is each side of the regular heptagon?

6. Draw a diagram of this statement. Then answer the questions that follow.

   Two fifths of the 45 coins in the purse were silver.

   (a) How many of the coins in the purse were silver?

   (b) How many of the coins in the purse were not silver?

7. What number is halfway between 18 and 19?

8. Find the least common multiple of 5, 10, and 8.

9. Round 1832.2243

   (a) to the nearest hundredth.

   (b) to the nearest hundred.

10. Simplify: $\dfrac{340}{720}$

11. What number is halfway between 59 and 60?

12. The coordinates of three vertices of a rectangle are $(-5, -1)$, $(4, -1)$, and $(4, -8)$.

    (a) What are the coordinates of the fourth vertex?   (b) What is the area of the rectangle?

13. Solve: $7s = 5 \cdot 49$

14. Use words to write 237.208.

Simplify:

15. 2.5×2.5

16. $2.73 \div 3$

17. $3.23 + 1 + 8.5$

18. $14.17 - 2.146$

19. $4\dfrac{1}{3} - \left(\dfrac{6}{7} \cdot \dfrac{3}{4}\right)$

20. $\left(6\dfrac{1}{4} + 6\dfrac{1}{2}\right) \div \left(6 - 4\dfrac{1}{4}\right)$

1. Mia ran 5 laps in 6 minutes and 50 seconds.
   (a) How many seconds did it take Mia to run 5 laps?
   (b) Mia's average time for running each lap was how many seconds?

2. Draw a diagram of this statement. Then answer the questions that follow.

   Of the 104 members of the Wallway clan, seventy-five percent had blue eyes.

   (a) How many members did not have blue eyes?   (b) How many members had blue eyes?

3. The length of a line segment is 81 mm. How long is the segment in centimeters?

4. Round 0.752659 to the nearest thousandth.

5. The measurement of two angles of a triangle are 74° and 30°. Find the measurement of the third angle.

6. Write thirty-eight and thirty-seven hundredths as
   (a) a decimal number.   (b) a mixed number.

7. Lupin received a shipment of 24 boxes of wind chimes. Each box contained 24 wind chimes. How many wind chimes were in the shipment?

8. A box contained only milk chocolates and dark chocolates. If the ratio of dark chocolates to milk chocolates was 9 to 7, what fraction of the chocolates were milk chocolates?

Simplify:

9. $0.37(0.01)$

10. $0.287 \div 7$

11. $11\frac{1}{12} - 7\frac{1}{4}$

12. $2\frac{1}{4} \cdot 2\frac{2}{3}$

13. $8 \div 2\frac{5}{6}$

14. Find the area of this figure.

Solve:

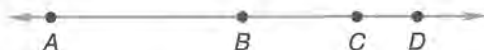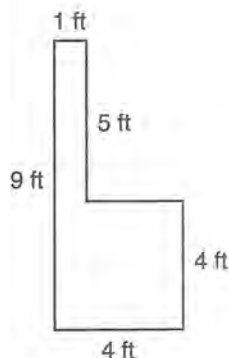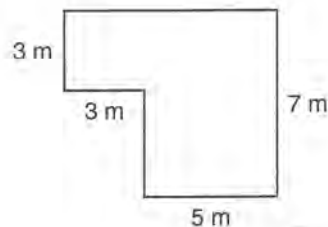15. $\dfrac{9}{8} = \dfrac{f}{48}$

16. $w + 0.35 = 2.04$

17. Find the perimeter of this figure.

18. The coordinates of the vertices of a triangle are $(-8, 0)$, $(3, 7)$, and $(3, 0)$. What is the area of the triangle?

19. Segment AB is 56 mm long. Segment CD is 14 mm long. Segment AD is 98 mm long. How long is segment BC?

20. What number is halfway between 31 and 32?

Math 87, Second Edition

Test 9   **SHOW YOUR WORK**   Name: _____

Give after Lesson 50

1. A number cube is tossed. Find the probability of rolling a number less than 3.

2. Adrian's test scores were 100, 98, 92, 84, 93, 88, 97, 91, 87, and 91. Find
    (a) the mean of his scores.   (b) the median of his scores.

3. Evaluate: $f(g + h)$ if $f = 0.6$, $g = 4$, and $h = 0.5$

4. Refer to the election tally sheet to answer questions (a) and (b).

    (a) The third-place candidate received how many more votes than the fifth-place candidate?

    (b) What fraction of the votes did Dawn receive?

Vote Totals	
Mark	~~HH~~ ~~HH~~ II
Dawn	~~HH~~ ~~HH~~ ~~HH~~ ~~HH~~
Mary	~~HH~~ ~~HH~~
Julie	~~HH~~ ~~HH~~ ~~HH~~ ~~HH~~ III
Teri	~~HH~~ ~~HH~~ ~~HH~~ II

5. The coordinates of the vertices of a triangle are $(-1, 7)$, $(3, -10)$, and $(3, 7)$. What is the area of the triangle?

6. Read the following statement. Then answer the questions that follow.

    Three eighths of those who rode the Giant Gyro at the fair were delirious. All the rest were dazed.

    (a) What fraction of those who rode the Giant Gyro were dazed?

    (b) What was the ratio of those who were delirious to those who were dazed?

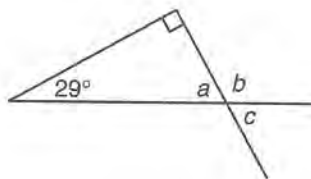7. If the perimeter of the rectangle is 16 mm, find its length.

    3 mm

8. Write 327% as a decimal number.

9. Write $\dfrac{5}{4}$ as a decimal number.

10. Round $67.\overline{24}$ to four decimal places.

11. Find the measures of $\angle a$, $\angle b$, and $\angle c$ in this figure.

12. Divide 3.2 by 11 and write the quotient with a bar over the repetend.

    29° a b c

Solve:

13. $\dfrac{5}{8} = \dfrac{d}{48}$ 14. $9 = v + 7.98$ 15. $0.188 = 8 - p$

Simplify:

16. $1\dfrac{2}{3} + \dfrac{1}{4} + 2\dfrac{2}{3}$ 17. $6\dfrac{1}{2} - \left(5 - 2\dfrac{3}{10}\right)$ 18. $3\dfrac{1}{5} \cdot 4\dfrac{3}{8} \cdot 2$

19. $5 \div 2\dfrac{1}{2}$ 20. $5.49 \div 0.9$

     Math 87, Second Edition

1. What is the total price of a $65.60 item plus 5% sales tax?

2. Brand X costs $2.70 for 10 ounces. Brand Y costs 4¢ more per ounce. What is the cost of 11 ounces of Brand Y?

3. The ratio of pansies to petunias in the garden was 17 to 8. What was the ratio of petunias to pansies?

4. One month Lane's weekly grocery bills were $119.97, $98.58, $99.18, and $105.15. Find Lane's average weekly grocery bill.

5. Three and one hundredth is how much less than three and five tenths? Write the answer in words.

6. Draw a diagram of this statement. Then answer the questions that follow.

   Fifty percent of the 66 boats at the dock were for sale.

   (a) What fraction of the boats were not for sale?   (b) How many boats were not for sale?

7. Find the area of this figure.
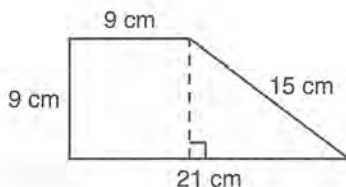
8. Write 16% as a reduced fraction.

9. Divide 3.8 by 11 and write the quotient with a bar over the repetend.

10. Simplify: $\dfrac{624}{656}$

11. The perimeter of a square is 96 inches. Find the area of the square.

Solve:

12. $\dfrac{2}{7} = \dfrac{8}{z}$

13. $4j = 1.6$

14. $9 - y = 1.85$

Simplify:

15. 10 h 10 min 50 s
    $+$ 12 h   8 min 45 s
    _____

16. $6^2 - 3^2$

17. $7\dfrac{1}{4} - 5\dfrac{1}{8}$

18. $6\dfrac{1}{4} \div 3\dfrac{1}{8}$

19. 0.185×10^4

20. $0.861 \div 0.07$

1. The ratio of sailors to pirates was 1 to 4. If there were 25 sailors, how many pirates were there?

2. Lakita's test scores are 87, 97, 83, and 87. What score does she need on the last test in order to average 90 on her tests?

3. A single-serving carton of yogurt costs 66¢. A case of 12 single-serving cartons costs $6.84. How much is saved per carton by buying the yogurt by the case?

4. Draw a diagram of this statement. Then answer the questions that follow.

   Four fifths of the 75 classic cars were hot rods.

   (a) How many of the classic cars were hot rods?   (b) What percent of the classic cars were hot rods?

5. (a) Write forty-four trillion in scientific notation.   (b) Write 6.51×10^4 in standard form.
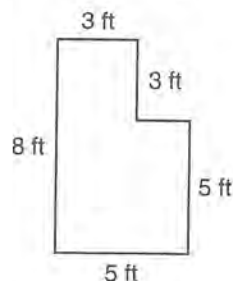
6. Compare: $1.92 + 0.3 \bigcirc 7 - 2.84$ 7. Use a unit multiplier to convert 710 mm to cm.

8. Complete the table.   9. Evaluate: $bc - cd$
                                                        if $b = 5, c = 2,$ and $d = 4$

Fraction	Decimal	Percent
$4\frac{3}{4}$		
		$4\frac{3}{4}\%$

10. Find the area of this figure. Dimensions are in inches.
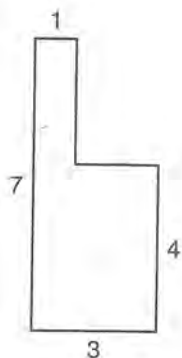
11. Find the perimeter of this figure.

12. (a) What fraction of the rectangle is shaded?
    (b) What fraction of the rectangle is unshaded?

Solve:

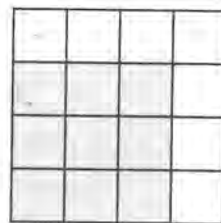13. $7 = p + 3.63$ 14. $\dfrac{g}{6} = \dfrac{16}{12}$

Simplify:

15. $15^2 - 4^3 - 3^2 - \sqrt{289}$ 16. $3 + 3 \times 3 - 3 \div 3$

17. $4\frac{3}{4} + 2\frac{1}{12} + 1\frac{1}{8}$ 18. $4\frac{4}{5} \cdot 3\frac{1}{8} \cdot 1\frac{9}{20}$ 19. $0.8(0.17)(0.04)$ 20. $7.2 \div 0.018$

Math 87, Second Edition

Test 12   **SHOW YOUR WORK**   Name: _____

Give after Lesson 65

1. If a half-gallon of milk costs $1.20, what is the cost per pint?

2. The cookie recipe called for oatmeal and raisins in the ratio of 8 to 7. If 3 cups of oatmeal were called for, how many cups of raisins were needed?

3. Marcie ran a 400-meter race 3 times. Her fastest time was 51.3 seconds. Her slowest time was 56.4 seconds. If her average time was 53.4 seconds, what was her time for the other race?

4. It is $4\frac{1}{2}$ miles to the end of the trail. If Sophia bicycles to the end and back in 60 minutes, what is her average speed in miles per hour?

5. What number is 20% of 30?

6. Read the following statement. Then answer the questions that follow.

> Only one fifth of the print area of the newspaper carried news.
> The rest of the area was filled with advertisements.

   (a) What percent of the print area was filled with advertisements?

   (b) What was the ratio of news area to advertisement area?

7. (a) Write 0.000297 in scientific notation.   (b) Write 4.42×10^{-6} in standard form.

8. What is the name of the quadrilateral that has two pairs of parallel sides?
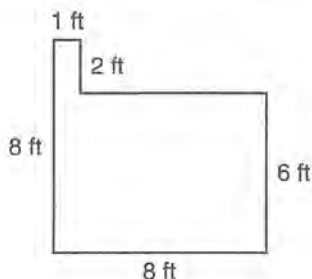
9. Use a unit multiplier to convert 1050 yards to feet.

10. Complete the table.

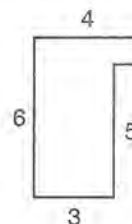| Fraction	Decimal	Percent
		10%
$\frac{3}{8}$		

Solve:

11. $e + 4.8 = 8$ 12. $\dfrac{7}{4} = \dfrac{h}{28}$

13. Find the perimeter of this figure.

14. Find the area of this figure. Dimensions are in meters.

Simplify:

15. $3 + 3 \times 3 - 3 \div 3$ 16. $3^4 - \sqrt{900} + 3^2$ 17.
```
   1 yd  2 ft
+ 7 yd  1 ft  3 in.
```

18. $5\frac{2}{5} + \left(5\frac{1}{30} - 2\frac{5}{6}\right)$ 19. $5\frac{5}{6} \div \left(2\frac{6}{7} \div 4\right)$ 20. $5.3(0.03)(0.009)$
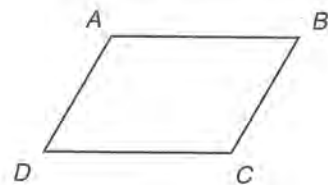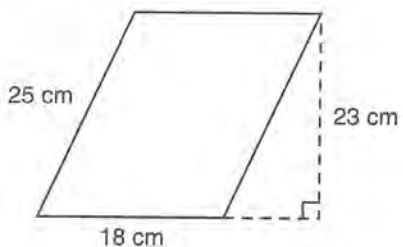
Math 87, Second Edition

1. What is the total price of a $10,000 car plus 6.1% sales tax?

2. The discount audio store advertised a collection of hits from the 1960's on 13 compact discs for $64.61. What is the cost of each disc?

3. The ratio of slugs to snails was 4 to 7. If there were 330 in all, how many were slugs?

4. What is the average of $3\frac{3}{10}$, 3, $4\frac{1}{2}$, and $1\frac{1}{5}$?   5. What number is 18% of 350?

6. Read the following statement. Then answer the questions that follow.

    Joel gave $\frac{3}{4}$ of his 228 sports cards to his brother.

    (a) What percent of his sports cards did Joel give to his brother?

    (b) How many sports cards did Joel have left?

7. (a) Write two ten-thousandths in scientific notation.   (b) Write 7.1×10^{-2} in standard form.

8. The measure of $\angle C$ in parallelogram *ABCD* is $100°$. Find the measure of $\angle D$.

9. Compare: 7.5 kg $\bigcirc$ 7500 g

10. Divide 3 by 0.33 and write the answer rounded to the nearest whole number.

11. Simplify: $(-2) + (+7) + (-9) + (+3)$

12. Complete the table.

Fraction	Decimal	Percent
$\frac{13}{25}$		
	0.4	

13. What is the area of the parallelogram.

25 cm   23 cm

18 cm

14. Evaluate: $jk + j + k$ if $j = \frac{5}{8}$ and $k = \frac{1}{2}$

Solve:

15. $\frac{w}{8} = \frac{25}{20}$

16. $2.7p = 0.216$

Simplify:

17. $27 - 2[2(6 - 2)]$

18. $2\frac{1}{4} + \left(5\frac{9}{20} - 4\frac{4}{5}\right)$

19. $1\frac{2}{5}\left(12 \div 1\frac{1}{3}\right)$

20. $0.6(0.6)(2.4)$

Math 87, Second Edition

1. It was 280 kilometers from Rimrock to Medford. Simone raced to Medford and idled back to Rimrock. If the round trip took 10 hours, what was her average speed in kilometers per hour?

2. The ratio of bunnies to hares was 1 to 2. If there were 117 in all, how many were bunnies?

3. Using a tape measure, Susan found that the circumference of the great redwood was 1200 cm. She estimated that the diameter was 400 cm. Was her estimate too large or too small? Why?

4. Almonds were priced at 4 pounds for $8.88.
   (a) What was the price per pound?
   (b) How much would 9 pounds of almonds cost?

5. If the product of one tenth and five tenths is subtracted from the sum of two tenths and six tenths, what is the difference?

6. Read the following statement. Then answer the questions that follow.

   Three fifths of the baker's 40 tarts were cherry.

   (a) How many of the baker's tarts were cherry?
   (b) What percent of the baker's tarts were not cherry?

7. Evaluate: $xy - (x - y)$ if $x = 0.7$ and $y = 0.6$

8. Write each of these numbers in the proper form of scientific notation: (a) 14×10^7 (b) 14×10^{-7}

9. What is the volume of the cube?

10. A cube has how many faces?

11. Simplify: $1\frac{1}{3} \div \left(1\frac{1}{2} \cdot 2\right)$

4 in.
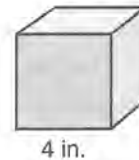
12. Use the figure at right.
    (a) Find the area of either of the right triangles that make up the rectangle shown.
    (b) Find the area of the isosceles triangle.

56 cm

42 cm   70 cm   42 cm

70 cm
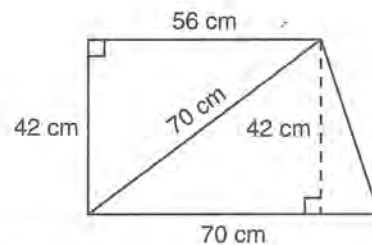
13. Use a unit multiplier to convert 16,000 g to kg.

14. Complete the table.

Fraction	Decimal	Percent
		4%
$\frac{7}{8}$		

15. Simplify: $(-4) + (-1) - (-7) - (-8)$

Solve:

16. $45 + p = 50.5$ 17. $6v = 50$ 18. How much money is 80% of $500?

19. Simplify: $3.2 + 4\frac{1}{2}$ (decimal answer)

20. Find the circumference of each of these circles.

    (a) Use $\frac{22}{7}$ for π.

    49 mm

    (b) Leave π as π.

    32 cm

Math 87, Second Edition

1. A piece of equipment that weighs 300 pounds on Earth would weigh 50 pounds on the Theta Space Station. If an astronaut weighs 180 pounds on Earth, what would the astronaut weigh on the Theta Space Station?

2. What number is halfway between 56 and 57?

3. Find the perimeter of the trapezoid.

4. Find the area of the trapezoid.
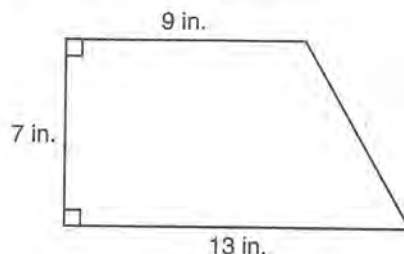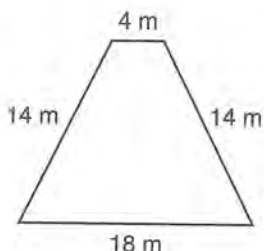
5. Sixteen squared is how much greater than the square root of 16?

6. The ratio of boys to girls was 4 to 7. If there were 418 in all, how many were girls?

7. Use a unit multiplier to convert 8.3 grams to milligrams.

8. Read the following statement. Then answer the questions that follow.

   In the first third of the season the Wildcats played 12 games.

   (a) How many games did the Wildcats play during the whole season?
   (b) If the Wildcats won 75% of their games during the whole season, how many games did they win?

9. Thirty-six is $\frac{4}{5}$ of what number?

10. One tenth of what number is 291?
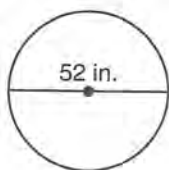
11. Simplify:

   (a) $-8(-5)$

   (b) $-7(+2)$

   (c) $\frac{-15}{-5}$

   (d) $\frac{18}{-3}$

12. If each edge of a cube is 9 inches long, what is the volume of the cube?

13. Find the circumference of each of these circles.
   (a) Use 3.14 for π.   (b) Leave π as π.

14. Complete the table.

Fraction	Decimal	Percent
$\frac{1}{9}$		
	0.4	

15. Evaluate: $40s - (st - t^2)$ if $s = 11$ and $t = 6$

Solve.

16. $\frac{3}{4}y = 24$

17. $s + 1.6 = 5$

Simplify:

18. $\frac{\$524}{1 \text{ wk}} \cdot \frac{1 \text{ wk}}{5 \text{ days}} \cdot \frac{1 \text{ day}}{8 \text{ hr}}$

19. $-(-6) - (-5) + 7$

20. $2\frac{7}{9} \div \left(3\frac{1}{2} + 4\frac{1}{6}\right)$

1. Camille mowed lawns for 2 hours and earned $5.80 per hour. Then she washed windows for 3 hours and earned $5.20 per hour. What were Camille's average earnings per hour for all 5 hours?

2. Evaluate: $a + (a^2 - ab) - b$ if $a = 10$ and $b = 4$

3. Compare: $d \bigcirc e$ if $d - e = 0$

4. The ratio of boys to girls was 2 to 3. If there were 155 in all, how many were boys?

5. A car travels 120 miles on 6 gallons of gas. How many gallons will it need to travel 260 miles?

6. The diameter of a circular running track at Jill's school is 35 meters. What is the circumference of the track to the nearest meter?

7. The coordinates of the vertices of $\triangle XYZ$ are $X(3, -2)$, $Y(1, -2)$, and $Z(3, -6)$. $\triangle XYZ$ is reflected in the y-axis. Find the coordinates of the vertices of its image $\triangle X'Y'Z'$.

8. Draw a number line and graph the solution to $x > 3$.

9. Melanie needed 28 inches of wire for her project. She used $\frac{1}{4}$ of a full spool of wire. How many inches of wire were on the full spool?

10. Simplify:

    (a) $14(-90)$ (b) $19(+60)$ (c) $\dfrac{-88}{-11}$ (d) $\dfrac{350}{-7}$

11. Complete the table.

12. Forty-two is $\dfrac{3}{5}$ of what number?

Fraction	Decimal	Percent
$\frac{4}{9}$		
	0.65	

13. What percent of 60 is 18?

14. Simplify: $\dfrac{2\frac{4}{5}}{61}$

15. Find the area of the trapezoid.

Solve:

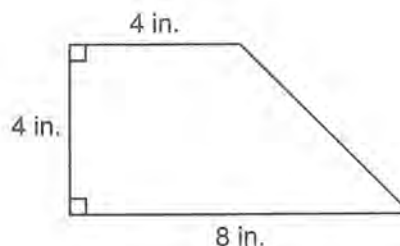16. $\dfrac{4}{5}x = 100$ 17. $6.2 = h - 0.02$

4 in.

4 in.

8 in.

Simplify:

18. $\dfrac{4^2 + 6 \cdot 8 - 6 \cdot 3^2}{\sqrt{81}}$

19. $6\frac{1}{3} \div 1.9$ (fraction answer)   20. $-33 - (-23) + (+32)$

Math 87, Second Edition

1. The team's ratio of games won to games played was 2 to 7. If the team played 49 games, how many games did the team fail to win?

2. Find the range, mean, median, and mode of the following numbers:

   47, 44, 53, 57, 65, 53, 53, 41, 69, 53, 70

3. The ratio of good guys to bad guys was 5 to 17. If there were 204 bad guys, how many good guys were there?

4. Use a unit multiplier to convert 0.37 liters to milliliters.

5. Draw a number line and graph the solution to $x \le 6$.

6. A lump of taffy was dropped into the stretching machine. Twenty seconds later it was a rope of taffy 2 feet long. At that rate, how long would the taffy rope be in 3 minutes?

7. At the ball game, 38% of the fans waved pom-poms. If 124 fans did not wave pom-poms, how many fans were there in all?

8. Draw a diagram of this statement. Then answer the questions that follow.

   Eighty-eight thousand dollars was raised in the charity drive. This was four fifths of the goal.

   (a) The goal of the charity drive was to raise how much money?
   (b) The charity drive fell short of the goal by what percent?

9. Simplify: $6x + 3 + 4x + 5$

10. Find the volume of a rectangular prism whose dimensions are 10 cm by 6 cm by 4 cm.

11. Find the area of this circle. Use $\frac{22}{7}$ for π.

42 in.

12. Complete the table.

Fraction	Decimal	Percent
		90%
$\frac{21}{40}$		

13. Name the quadrilateral and explain why that is the best name for the figure.

14. Find the area of the figure below.

62 km
60 km
52 km
60 km
62 km
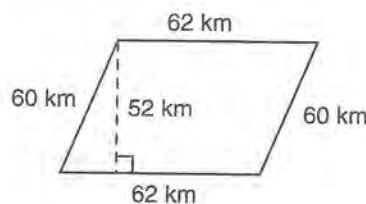
15. Multiply $(2.2 \times 10^5)(2.1 \times 10^6)$ and write the answer in scientific notation.

Solve:

16. $4.5 = 0.9n$

17. $s + \frac{1}{2} = 6\frac{19}{24}$

Simplify:

18. $2\{23 - [5^2 - 3(4 - 2)]\}$

19. $0.7 \div \left(3\frac{7}{9} - 2\frac{2}{3}\right)$
   (fraction answer)

20. $(-5) + (-9) - (-6) - (-1)$

1. In the forest there were lions and tigers and bears. The ratio of lions to tigers was 4 to 5. The ratio of tigers to bears was 3 to 5. If there were 12 lions, how many bears were there?

2. Find the volume of a rectangular prism whose dimensions are 3 cm by 5cm by 10 cm.

3. A baseball player's batting average is found by dividing the number of hits by the number of at-bats and rounding the result to the nearest thousandth. If Mark had 24 hits in 78 at-bats, what was his batting average?

4. Use two unit multipliers to convert 27 square feet to square yards.

5. Graph the negative integers greater than –2.

6. Read the following statements. Then answer the questions that follow.

    Donald bought the book shelf for $56. This was $\frac{7}{10}$ of the regular price.

    (a) What was the regular price of the book shelf?
    (b) Donald bought the book shelf for what percent of the regular price?

7. Use the information in this figure to answer questions (a) and (b).
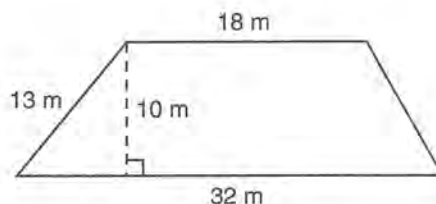   (a) What is m∠w?
    (b) What is m∠z?
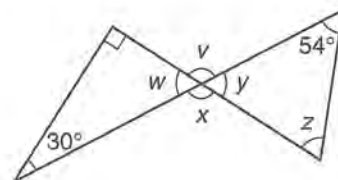
8. How many diagonals can be drawn from one vertex of a regular octagon?

9. What is the circumference of this circle? Use $\frac{22}{7}$ for π.

10. Find the area of this trapezoid.

11. Compare: $a^2 \bigcirc a$ if $a = 1.2$

12. Complete the table.

13. What percent of 60 is 6?

14. How many degrees is $\frac{1}{6}$ of a full circle?

Fraction	Decimal	Percent
	0.54	

15. Last week, twenty-five percent of the 5000 fast food customers ordered fries. How many of the customers did not order fries?

16. Multiply $(2.3 \times 10^{-1})(2.4 \times 10^{-9})$ and write the product in scientific notation.
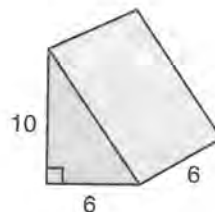
Solve.

17. $3\frac{2}{5}d = 85$

18. $g + 0.86 = 4.92$

Simplify:

19. $(-8x^2)(-2xy^2)$

20. $(-6) - (-8)(+4) - (-2)(-5)$

SHOW YOUR WORK

Name: _____

1. After 4 tests Jerome's average score was 83. What score must he earn on his next test to have a 5-test average of 85?

2. Of the 25 students in the club, 10 were boys. What was the ratio of girls to boys in the club?

3. If 5 boxes of cherries cost $31.00, how much will 8 boxes of cherries cost?

4. What is the probability of a flipped coin landing heads up five times in a row?

5. Due to heavy rains, the cost of lettuce increased by 25 percent in one month. If the cost after the increase was 75¢ per pound, what was the cost before the increase?

6. What percent of 150 is 36?

7. Use two unit multipliers to convert 1000 cm² to mm².

8. If $m = -7$ and $n = -6m + 2$, then n equals what number?

9. Find the volume of this right rectangular prism. Dimensions are in centimeters.

10. The price of the ski jacket was $85.00. The tax rate was 6%.

    (a) What was the tax on the ski jacket?

    (b) What was the total price of the ski jacket including tax?

11. Multiply $(2 \times 10^{-4})(3 \times 10^2)$ and write the answer in scientific notation.

12. Complete the table.

13. Graph the whole numbers less than 8.

Fraction	Decimal	Percent
$3\frac{3}{4}$		
		$3\frac{3}{4}\%$

Solve.

14. $4\frac{4}{5}c = 264$ 15. $2p + 11 = 21$

Simplify:

16. $(4 \cdot 3)^2 - 4(3)^2$

17. $(-3x^2)(3x^2y)(-2xy)$

18. $4 - \left(7\frac{1}{2} - 5.6\right)$ (fraction answer)

19. $6x - 4y - 8x + 6y$

20. $\dfrac{2 - 4 + 1 - 14 + 7(-6)}{3}$

Math 87, Second Edition

1. Aaron's average score on the first 4 tests was 86. On the next 2 tests his average score was 92. What was his average score on all 6 tests?

2. Martha was earning $6.90 per hour. After working 6 months she received a raise of 20%. What was her hourly rate after the raise?

3. What percent of 14 is 21?

4. Use two unit multipliers to convert 2.6 m² to cm².

5. If the spinner is spun twice, what is the probability that the arrow will stop on a consonant both times?
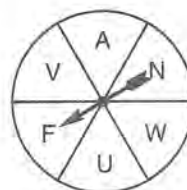
6. Simplify: $\dfrac{-4(-6) + 5(-1)(-3)}{(-3)}$

7. Read the following statement. Then answer the questions that follow.

   There were five squished boxes in the crate. This was $\dfrac{1}{3}$ of the total number of boxes in the crate.

   (a) How many boxes were in the crate?

   (b) What percent of the boxes in the crate were not squished?

8. Evaluate: $\dfrac{w + x}{y}$ if $w = -4$, $x = -5$, and $y = -6$

9. The perimeter of a square is 76 meters. Find the area of the square.

10. Find the volume of this right triangular prism. Dimensions are in centimeters.
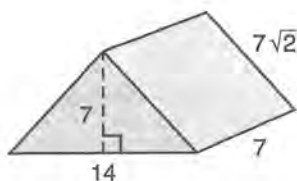
11. Find the area of this circle. Use 3.14 for π.
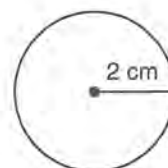
12. Find the total price, including 7% tax, of 20 square yards of carpeting priced at $17.00 per square yard.

13. What is number is $66\dfrac{2}{3}\%$ of 24?

14. At 5:00 a.m. the hands of a clock form an angle that measures how many degrees?

15. Multiply $(4 \times 10^{-2})(5 \times 10^5)$ and write the answer in scientific notation.

Solve.

16. $0.5j - 1.2 = 1.2$

17. $\dfrac{2}{3}a - 3 = 5$

Simplify:

18. $4^3 - \sqrt{25} + 9 \cdot 3^4$

19.
$$\begin{array}{r} 6 \text{ in.} \\ + 5 \text{ yd } 1 \text{ ft } 11 \text{ in.} \\ \hline \end{array}$$

20. $3c + 8(c + 2)$

Math 87, Second Edition

1. The dinner bill totaled $21.00. Beth left a 15% tip. How much money did Beth leave for a tip?

2. The 528-kilometer drive took $8\frac{1}{4}$ hours. What was the average speed of the drive in kilometers per hour?

3. The $\frac{1}{48}$-scale model of the building stood 11 inches high. What was the height of the actual building in feet?

4. Rachel saved $35 buying the dress at a 20%-off sale. What was the regular price of the dress?

5. A department store purchases a coat for $55. To sell the coat to customers, the price is increased by 23%. What is the new price of the coat?

6. Simplify: $\dfrac{(-18) - (-4)(+5)}{(-4) - (+5) - (+5)}$

7. What is 7.5% of $80.00?

Solve.

8. $2n + 22 - 4n = 42$

9. $\dfrac{16}{b} = \dfrac{94}{4.7}$

10. Simplify: $-3^2 + (-3)^2$

11. Indicate whether $\sqrt{168}$ is a rational number or an irrational number.

12. If the chance of rain is 6%, what is the chance that it will not rain?

13. Between which two consecutive whole numbers is $\sqrt{57}$?

14. Simplify: $\dfrac{(-6cd)(-4c^2d)}{4c^2d}$

15. In this figure, find the measure of $\angle UOV$.

16. A building casts a shadow 108 m long. At the same time, a flagpole 6 m tall casts a shadow 12 m long. How tall is the building?
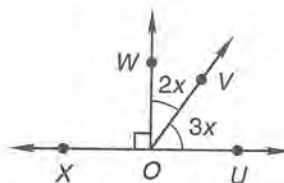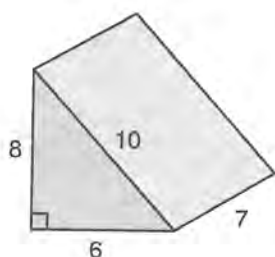

17. Find the perimeter of this figure. Dimensions are in feet. Use 3.14 for π.
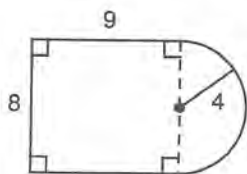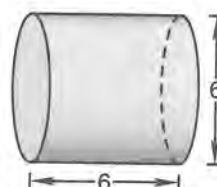
18. Use the Pythagorean theorem to find x.
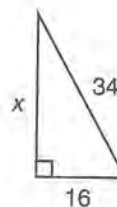
19. Find the surface area of this right triangular prism. Dimensions are in millimeters.

20. Find the volume of this right circular cylinder. Dimensions are in feet. Use 3.14 for π.

1. Find the range, mean, median, and mode of the following numbers:

$$60, 46, 64, 69, 69, 69, 72, 58, 69$$

2. Two cards are drawn at random from a normal deck of 52 cards and not replaced. What is the probability that both cards are red?

3. Simone can exchange $160 for 300 Swiss francs. At that rate, how many dollars would a 330 franc Swiss watch cost?

4. The ratio of cats to dogs was 4 to 9. If there were 351 in all, how many were cats?

5. During the Balloon Festival the rate for a hot-air balloon ride was reduced 30%. If the usual rate was $130 per person, what was the rate during the Balloon Festival?

6. What is 4.5% of $54.00?   7. Ten percent of what number is 220?

8. Use the formula $t = 1.04p$ to find t when $p = \$7.25$.

Simplify:

9. $54 - \left\{81 - 3\left[2 + 2\left(3^2\right)\right]\right\}$ 10. $\dfrac{(-6de^3)(15d^2e)}{-15d^3e}$ 11. $\dfrac{(-5) - (2)(-7) - (-2)^2}{(-1) - (-2)}$

12. The $\frac{1}{48}$-scale model of the building stood 8 inches high. What was the height of the actual building in feet?

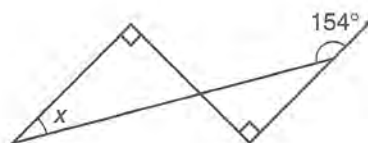13. Find the volume of this right circular cylinder. Dimensions are in centimeters. Use 3.14 for π.
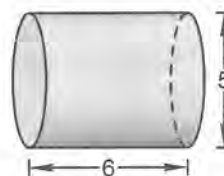
14. Solve: $1\dfrac{3}{7}n - 23 = 27$ 15. Solve for t: $r = \dfrac{s - t}{t}$

16. Solve: $4d + 10 = 2d - 14$

17. Find m$\angle x$ in this figure.
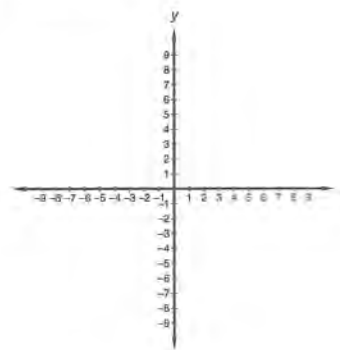

18. (a) Complete this table.   (b) Graph the number pairs from (a) and draw a line through them.
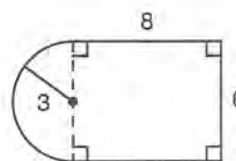
$y = 2x - 3$

x	y
-3	
3	
6	

(c) Find the slope of the line.

19. Find the perimeter of the figure. Dimensions are in centimeters. Use 3.14 for π.

20. Solve: $-2n + 24 + 4n = 50$

Math 87, Second Edition

1. The skateboard was regularly priced at $40.00, but it was on sale for 20% off. What was the sale price?

2. If 20 kilograms of seed cost $31, how much would 30 kilograms cost at the same rate?

3. During the sale, the price of the laser printer was marked down 20 percent. The sale price of the laser printer was $384. What was the original price of the laser printer?

4. Divide 2×10^7 by 4×10^3 and write the answer in scientific notation.

5. The median of these numbers is how much less than the mean?

$$1.5, 0.4, 0.8, 0.85, 3.4$$

6. What is the probability of a flipped coin landing tails up three times in a row?

7. Teesha left $3500 in an account that paid 6% interest compounded annually. How much interest was earned in 6 years?

8. What percent of $25 is $7.75?

9. An aquarium with the dimensions shown is filled with water.
   (a) How many liters of water are in the aquarium?
   (b) How many kilograms of water are in the aquarium?

70 cm
37 cm
100 cm
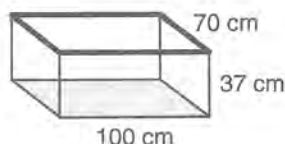
10. Use two unit multipliers to convert 5 ft^2 to square inches.

11. Eileen used the diagram to compute the distance from Ferris to Dunlap to Butte. How much shorter is the distance directly from Ferris to Butte than the distance Eileen found?
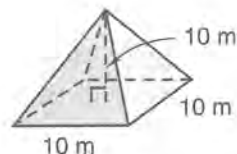

Ferris
20 mi
Dunlap   48 mi   Butte
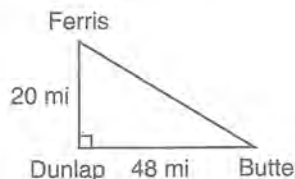
Simplify:

12. $8^2 \cdot 8^{-2}$ 13. $\dfrac{8d \cdot 7d}{4d + 5d}$ 14. $\dfrac{(-4) + (-7) + (3)(-3)}{(-6) - (-2)}$ 15. Solve: $1\frac{2}{5}v - 27 = -6$

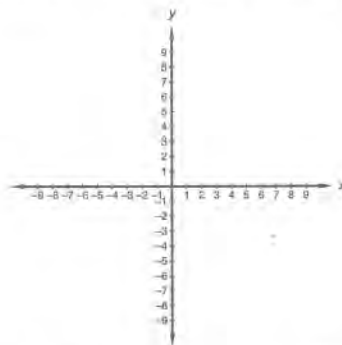16. Draw a number line and graph the solution to $2x - 4 < 0$.

17. Find the volume of the pyramid.

10 m
10 m
10 m

18. (a) Complete this table.   (b) Graph the number pairs from (a) and draw a line through them.

$y = 3x + 4$

x	y
−4	
−3	
1	

(c) Find the slope of the line.

19. Use the formula $A = \frac{1}{2}bh$ to find h when $A = 56$ and $b = 14$.

20. Find m∠x in this figure.

77°   93°   140°
x

Math 87, Second Edition
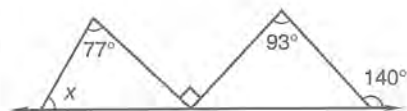
1. Round $34\frac{7}{9}$ to the nearest whole number.

2. Write the prime factorization of 1800.

3. Reduce: $\dfrac{240}{400}$

4. The coordinates of three vertices of a rectangle are $(-9, -7)$, $(-9, -4)$, and $(1, -4)$.
   (a) What are the coordinates of the fourth vertex?
   (b) What is the area of the rectangle?

Simplify:

5. $2\dfrac{1}{4} \cdot 2\dfrac{2}{3}$ 6. $1\dfrac{4}{9}\left(7 \div 1\dfrac{2}{5}\right)$ 7. $\dfrac{7}{8} + \dfrac{1}{5}$ 8. $12\dfrac{3}{4} - 5\dfrac{3}{8}$

Solve:

9. $0.283 = 2 - d$ 10. $2.8 = p - 0.05$ 11. $\dfrac{r}{20} = \dfrac{36}{24}$

Simplify:

12. $0.3(0.25)(0.04)$ 13. $0.632 \div 0.04$ 14. $\dfrac{5^2 + 7 \cdot 4 - 5 \cdot 3^2}{\sqrt{64}}$

15. Find the perimeter of the trapezoid.

16. (a) Write 0.00344 in scientific notation.
    (b) Write 8.12×10^{-5} in standard form.

17. What is the total price of a $35.60 item plus 5% sales tax?

18. Find the measures of $\angle a$, $\angle b$, and $\angle c$ in this figure.

19. Of the 32 students in the club, 8 were boys. What was the ratio of girls to boys in the club?

20. Will's average score on the first 3 tests was 78. On the next 4 tests his average score was 81. What was his average score on all 7 tests?

21. Find the surface area of a sphere with a radius of 3 m. Use 3.14 for π.
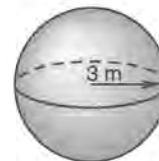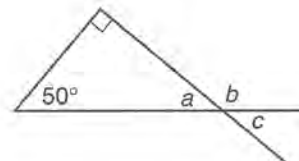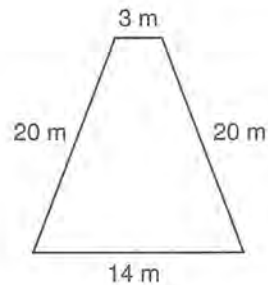
22. What is the circumference of this circle? Use $\frac{22}{7}$ for π.

23. Find the area of this circle. Use 3.14 for π.

     Math 87, Second Edition
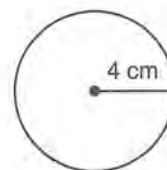
24. Simplify: $\dfrac{(-20) - (-8)(-3)}{(-5) - (+2) - (+3)}$

25. What is the volume of the cube?

7 in.

26. Martha ate $\frac{1}{10}$ of the 20 cookies. How many cookies did she eat?

27. Multiply $(3.3 \times 10^3)(2.4 \times 10^9)$ and write the answer in scientific notation.

28. At the ball game, 36% of the fans waved pom-poms. If 192 fans did not wave pom-poms, how many fans were there in all?

29. Find the area of the trapezoid.

30. Solve: $2\dfrac{1}{6}b - 15 = 11$

31. Evaluate: $\dfrac{f + g}{h}$ if $f = -6$, $g = -3$, and $h = -7$

15 in.

15 in.

19 in.

32. The skateboard was regularly priced at $40.00, but it was on sale for 25% off. What was the sale price?

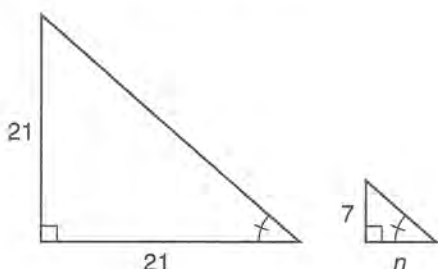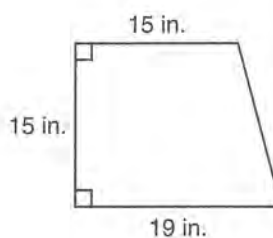**33.** Use the formula $A = \dfrac{1}{2}bh$ to find h when $A=26$ and $b=4$.

34. What is the probability of a flipped coin landing tails up four times in a row?

35. These two triangles are similar. Find n.
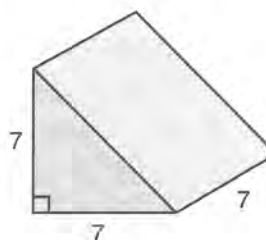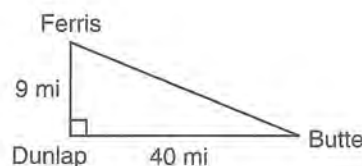
36. Simplify: $4x + y + 3x - 6y$

21

21

7
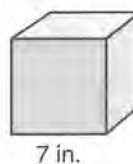
n

37. Janina used the diagram to compute the distance from Ferris to Dunlap to Butte. How much shorter is the distance directly from Ferris to Butte than the distance Janina found?

Ferris

9 mi

Dunlap   40 mi

Butte

38. Solve: $2n + 14 - 4n = 26$

39. Simplify: $(-7x)(8x^2y)(3x^3y^2)$

40. Find the volume of this right triangular prism. Dimensions are in centimeters.

7

7

7

Name _____ Test _____

Date _____ Score _____

Show **all** work on this paper. Do not write on the test.

1.

2.

3.

4.

5.

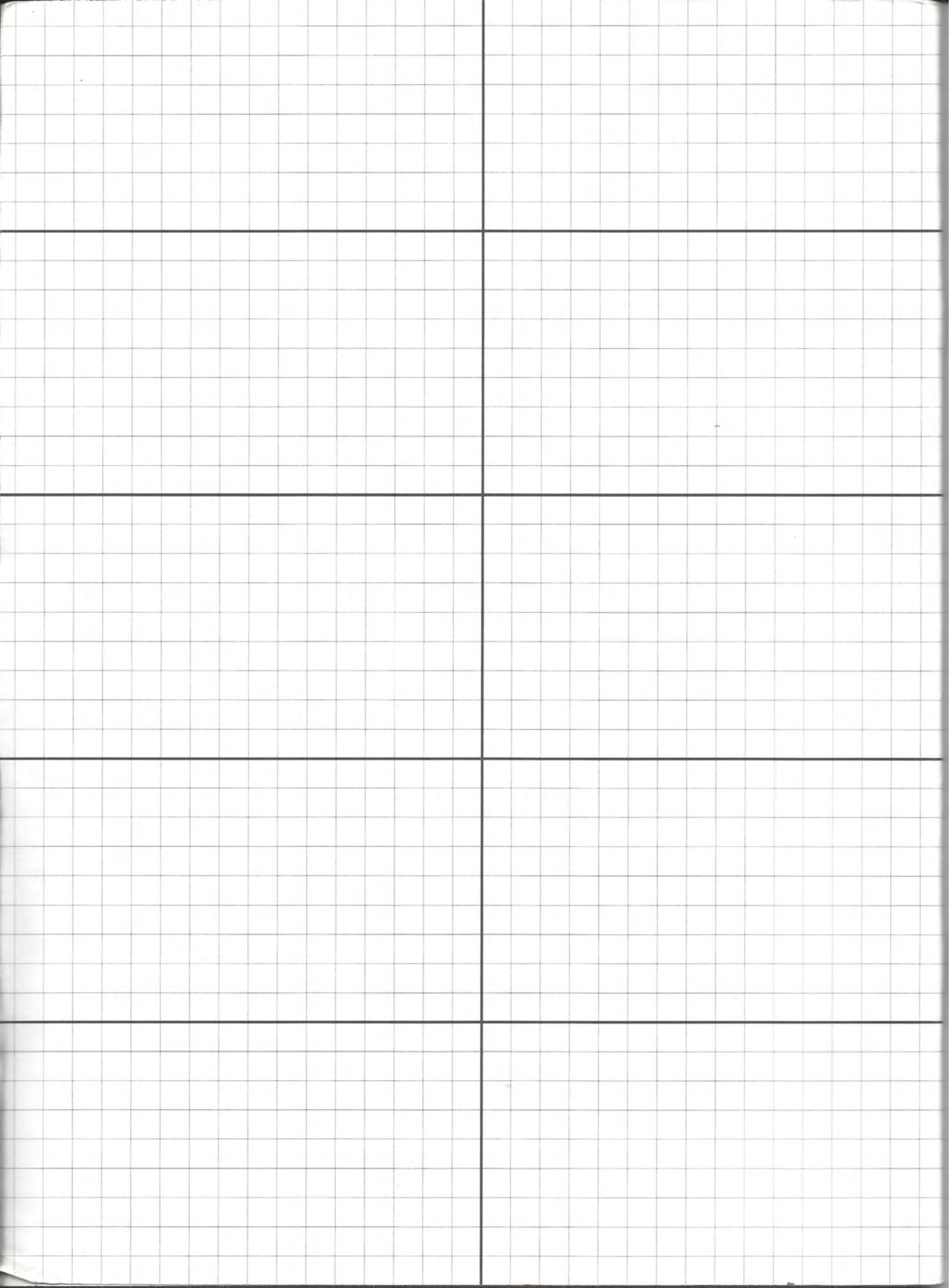6.

7.

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10.

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16.

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18.

19.

20.

Name _____   Test _____

Date _____   Score _____

Show **all** work on this paper. Do not write on the test.

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