

End-of-Year Assessment Goals



The End-of-Year Assessment (pages 234–241) provides an additional opportunity that you may use as part of your balanced assessment plan. It covers some of the important concepts and skills presented in *Fifth Grade Everyday Mathematics*. It should be used to complement the ongoing and periodic assessments that appear within lessons and at the end of units. The following table provides the goals for all the problems in the End-of-Year Assessment.

Problem(s)	Grade-Level Goal
1	Number and Numeration Goal 1: Read and write whole numbers and decimals; identify places in such numbers and the values of the digits in those places; use expanded notation to represent whole numbers and decimals.
2, 3	Number and Numeration Goal 1: Read and write whole numbers and decimals; identify places in such numbers and the values of the digits in those places; use expanded notation to represent whole numbers and decimals.
4, 5	Number and Numeration Goal 5: Use numerical expressions to find and represent equivalent names for fractions, decimals, and percents; use and explain multiplication and division rules to find equivalent fractions and fractions in simplest form; convert between fractions and mixed numbers; convert between fractions, decimals, and percents.
6	Number and Numeration Goal 3: Identify prime and composite numbers; factor numbers; find prime factorizations.
7a	Data and Chance Goal 1: Collect and organize data or use given data to create graphic displays with reasonable titles, labels, keys, and intervals.
7b–7e	Data and Chance Goal 2: Use the maximum, minimum, range, median, mode, and mean and graphs to ask and answer questions, draw conclusions, and make predictions.
8	Operations and Computation Goal 1: Use manipulatives, mental arithmetic, paper-and-pencil algorithms and models, and calculators to solve problems involving the addition and subtraction of whole numbers, decimals, and signed numbers; describe the strategies used and explain how they work.
9	Geometry Goal 2: Describe, compare, and classify plane and solid figures using appropriate geometric terms; identify congruent figures and describe their properties.
10	Measurement and Reference Frames Goal 2: Describe and use strategies to find the perimeter of polygons and the area of circles; choose and use appropriate methods, including formulas, to find the areas of rectangles, parallelograms, and triangles, and the volume of a prism; define <i>pi</i> as the ratio of a circle's circumference to its diameter.
11	Patterns, Functions, and Algebra Goal 3: Evaluate numeric expressions containing grouping symbols and nested grouping symbols; insert grouping symbols and nested grouping symbols to make number sentences true; describe and use the precedence of multiplication and division over addition and subtraction.
12	Operations and Computation Goal 4: Use mental arithmetic, paper-and-pencil algorithms and models, and calculators to solve problems involving the addition and subtraction of fractions and mixed numbers; describe the strategies used and explain how they work.

Problem(s)	Grade-Level Goal
13	Measurement and Reference Frames Goal 2: Describe and use strategies to find the perimeter of polygons and the area of circles; choose and use appropriate methods, including formulas, to find the areas of rectangles, parallelograms, and triangles, and the volume of a prism; define π as the ratio of a circle's circumference to its diameter.
14, 15	Operations and Computation Goal 5: Use area models, mental arithmetic, paper-and-pencil algorithms and models, and calculators to solve problems involving the multiplication of fractions and mixed numbers; use visual models, paper-and-pencil methods, and calculators to solve problems involving the division of fractions; describe the strategies used.
16	Patterns, Functions, and Algebra Goal 4: Describe and apply properties of arithmetic.
17	Operations and Computation Goal 6: Make reasonable estimates for whole number and decimal addition, subtraction, multiplication, and division problems and fraction and mixed number addition and subtraction problems; explain how the estimates were obtained.
18	Operations and Computation Goal 7: Use repeated addition, arrays, area, and scaling to model multiplication and division; use ratios expressed as words, fractions, percents, and with colons; solve problems involving ratios of parts of a set to the whole set.
19a	Data and Chance Goal 1: Collect and organize data or use given data to create graphic displays with reasonable titles, labels, keys, and intervals.
19b	Number and Numeration Goal 2: Solve problems involving percents and discounts; describe and explain strategies used; identify the unit whole in situations involving fractions.
20	Number and Numeration Goal 6: Compare and order rational numbers; use area models, benchmark fractions, and analyses of numerators and denominators to compare and order fractions and mixed numbers; describe strategies used to compare fractions and mixed numbers.
21	Number and Numeration Goal 4: Use numerical expressions involving one or more of the basic four arithmetic operations, grouping symbols, and exponents to give equivalent names for whole numbers; convert between base-10, exponential, and repeated-factor notations.
22	Data and Chance Goal 3: Describe events using <i>certain</i> , <i>very likely</i> , <i>likely</i> , <i>unlikely</i> , <i>very unlikely</i> , <i>impossible</i> , and other basic probability terms; use <i>more likely</i> , <i>equally likely</i> , <i>same chance</i> , <i>50-50</i> , <i>less likely</i> , and other basic probability terms to compare events; explain the choice of language.
23	Operations and Computation Goal 3: Use manipulatives, mental arithmetic, paper-and-pencil algorithms and models, and calculators to solve problems involving the multiplication of whole numbers and decimals and the division of multidigit whole numbers and decimals by whole numbers; express remainders as whole numbers or fractions as appropriate; describe the strategies used and explain how they work.
24	Data and Chance Goal 4: Predict the outcomes of experiments, test the predictions using manipulatives, and summarize the results; compare predictions based on theoretical probability with experimental results; use summaries and comparisons to predict future events; express the probability of an event as a fraction, decimal, or percent.
25	Measurement and Reference Frames Goal 3: Describe relationships among U.S. customary units of measure and among metric units of measure.
26	Patterns, Functions, and Algebra Goal 2: Determine whether number sentences are true or false; solve open number sentences and explain the solutions; use a letter variable to write an open sentence to model a number story; use a pan-balance model to solve linear equations in one unknown.
27	Operations and Computation Goal 2: Demonstrate automaticity with multiplication and division fact extensions.

LESSON
12•9
End-of-Year Assessment


- 1. a.** Write five hundred forty-six million, three hundred nine thousand, forty-one in standard notation.

- b.** Circle the digit in the ten-thousands place.

- c.** Underline the digit in the ten-millions place.

- 2. a.** Write five and three hundred eighty-seven thousandths in standard notation.

- b.** Circle the digit in the thousandths place.

- c.** Underline the digit in the tenths place.

- 3.** Write 3,980,300.045 in expanded notation.

- 4.** Write each fraction in its simplest form.

a. $\frac{28}{3} =$ _____

b. $4\frac{18}{24} =$ _____

c. $11\frac{54}{72} =$ _____

- 5.** Find the missing number.

a. $\frac{1}{5} = \frac{19}{x}$ $x =$ _____

b. $\frac{8}{20} = \frac{s}{10}$ $s =$ _____

c. $\frac{n}{120} = \frac{3}{4}$ $n =$ _____

d. $\frac{36}{m} = \frac{4}{7}$ $m =$ _____

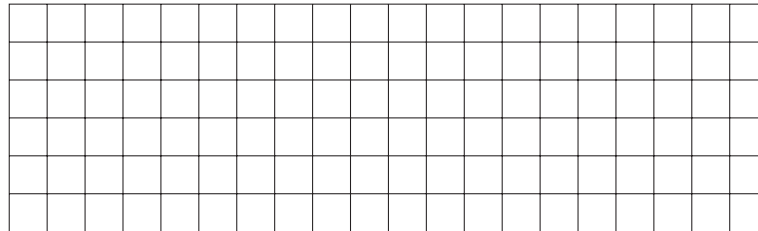
- 6.** Write the prime factorization for 72. _____

LESSON
12•9
End-of-Year Assessment *continued*


7. Mr. Hernandez's fifth grade students measured their heights to the nearest centimeter. Use the data in the table to create a bar graph below. Label the parts of the graph.

Height (cm)	Number of Students
135	1
137	2
145	4
147	3
148	1
150	5
152	2
157	1
165	1

a.



Use the data above to find the following landmarks.

b. Median: _____

c. Mode: _____

d. Mean (rounded to the nearest cm): _____

e. What would happen to the median if two students were added to the class data and both measured 146 centimeters?

8. Add or subtract.

a. $-5 + (-5) =$ _____

b. $8 - (-20) =$ _____

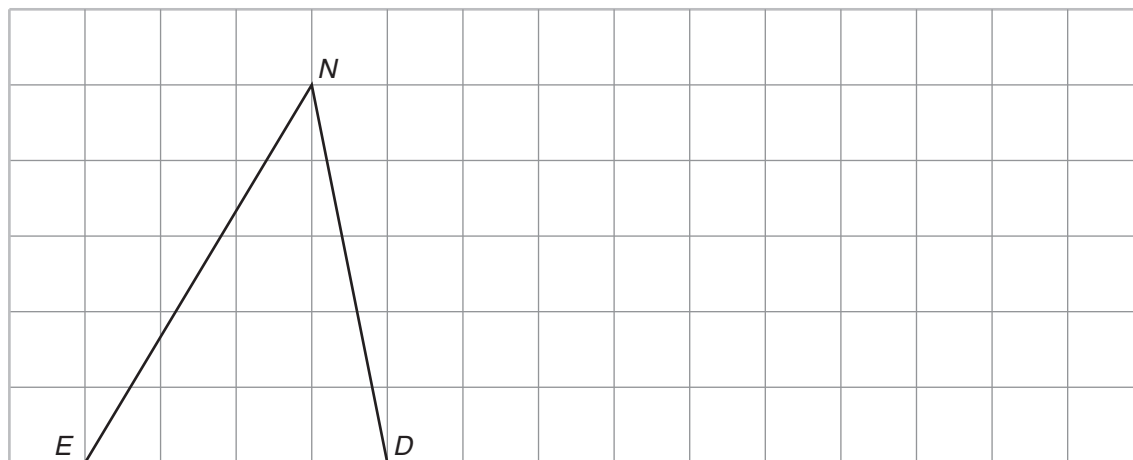
c. $10 + (-3) =$ _____

LESSON
12•9
End-of-Year Assessment *continued*


9. Draw a line to match each sentence to the name of the correct geometric solid.

- | | |
|---|------------------|
| a. I have 6 congruent square faces. | square pyramid |
| b. I have a square base, and all of my other faces are triangles. | cube |
| c. I have 2 congruent triangular bases, and all of my other faces are rectangles. | cone |
| d. I have a special vertex called an apex and a curved surface. | triangular prism |

10. a. Each square in the grid below has an area of 1 square centimeter. What is the area of triangle *END*? _____ cm²
- b. Draw a rectangle that has an area of 12 cm².
- c. What is the perimeter of this rectangle? _____ cm



11. Insert parentheses to make the number sentences true.

a. $210 \div 6 * 2 + 5 = 5$

b. $144 = 18 - 12 + 42 * 3$

12. Add or subtract.

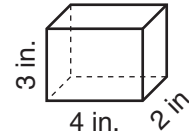
a. $6\frac{1}{8} - \frac{3}{4} =$ _____

b. $3\frac{1}{5} + 4\frac{3}{4} =$ _____

LESSON
12•9**End-of-Year Assessment** *continued*

- 13.**
- What is the volume of the prism to the right?

_____ (unit)

Volume of a prism: $V = B * h$ or $V = l * w * h$

Solve. Write your answers in simplest form.

14. a. $\frac{7}{8} * \frac{14}{16} =$ _____

b. $12\frac{3}{5} * \frac{5}{6} =$ _____

c. $4\frac{2}{7} * 3\frac{1}{6} =$ _____

15. a. $10 \div \frac{1}{3} =$ _____

b. $\frac{1}{8} \div 2 =$ _____

c. $\frac{1}{2} \div \frac{5}{6} =$ _____

- 16.**
- Fill in the blanks.

a. $36 * 42 = 42 *$ _____

b. $815 + 934 =$ _____ $+ 815$

c. $34 *$ _____ $= 34$

d. _____ $+ 0 = 45$

e. $8 * 527 =$ (_____ $* 500$) $+ (8 *$ _____ $) + (8 *$ _____ $)$

- 17.**
- Jean combined
- $\frac{1}{3}$
- cup of corn flour with
- $\frac{3}{4}$
- cup of white flour.

Is the total amount of flour more or less than 1 cup? _____

Explain. _____

- 18.**
- The scale on Dominique's map is 1 cm = 70 mi. The distance on the map from the train station in his hometown to his cousin's house is 5.5 cm. How many miles is it to his cousin's house? _____

(unit)

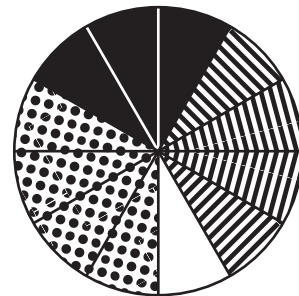
LESSON
12•9**End-of-Year Assessment** *continued***23.** Solve. Show your work.

a. $7.34 * 45 =$ _____

b. $9.7 * 67.2 =$ _____

c. $7,835 \div 12 =$ _____

d. $806.3 \div 5 =$ _____

24. The probability of landing on the shaded sectors of the spinner is 25% or $\frac{1}{4}$, the probability of landing on white is $\frac{1}{12}$. What is the probability of landing on the striped sectors of the spinner?

25. Complete the following statements.

a. 1 meter = _____ cm

b. 137 cm = _____ mm

c. 4.5 m = _____ mm

d. 9,300 mm = _____ m

e. 36 ft = _____ yd

f. 48 in. = _____ ft

26. Use order of operations to tell whether each number sentence is true or false.

a. $0 = (-5 + 3) * 2$ _____

b. $40 - 15 / 5 + 2 = 39$ _____

LESSON
12•9**End-of-Year Assessment** *continued***27.** Complete.

a. _____ * 9,000 = 27,000

b. 3,200,000 = 80 * _____

c. 560,000 ÷ _____ = 7

d. _____ ÷ 300 = 7,000

28. Solve. Show your work.

a. 14.95 + 7.064 = _____

b. 24.71 + 569.809 = _____

c. 76.9 - 46.170 = _____

d. 7.083 - 0.79 = _____

29. During the basketball game, Blaire shot the ball 28 times. She made 3 out of every 7 shots. How many baskets did she make? _____**30.** Mark the following points on the ruler.

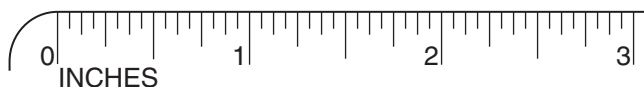
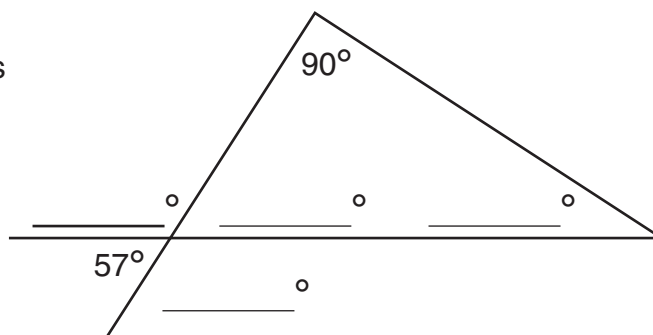
A: $\frac{3}{8}$ in.

B: $2\frac{5}{8}$ in.

C: $1\frac{3}{4}$ in.

D: $1\frac{1}{2}$ in.

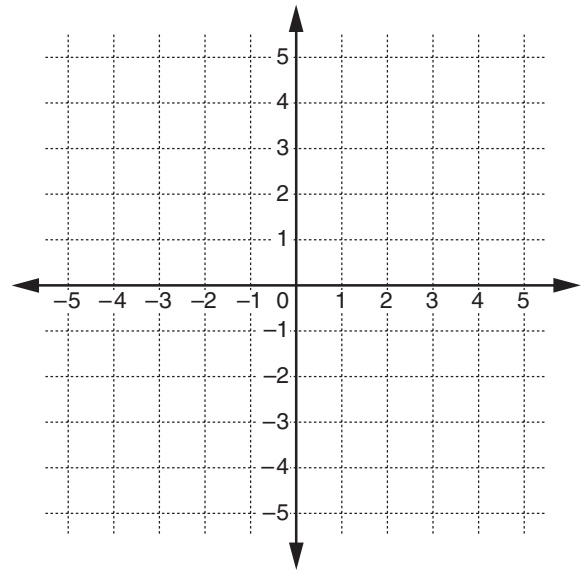
E: $1\frac{7}{8}$ in.

**31.** Use what you know about angle measure to record the missing angle measurements in the figure below.

LESSON
12•9
End-of-Year Assessment *continued*


Use the grid at the right for Problems 32a–32d.

- 32. a.** Plot the following points: $(5, -1)$, $(5, -3)$, $(3, -3)$, $(1, -1)$
- b.** Draw line segments to connect the points to make a polygon.
- c.** Plot new points on the grid to make a translation of the polygon.
- d.** Are the two polygons you made congruent?



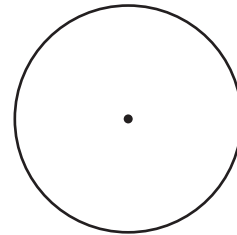
How do you know?

Circumference of circle: $C = \pi * d$

Area of a circle: $A = \pi * r^2$

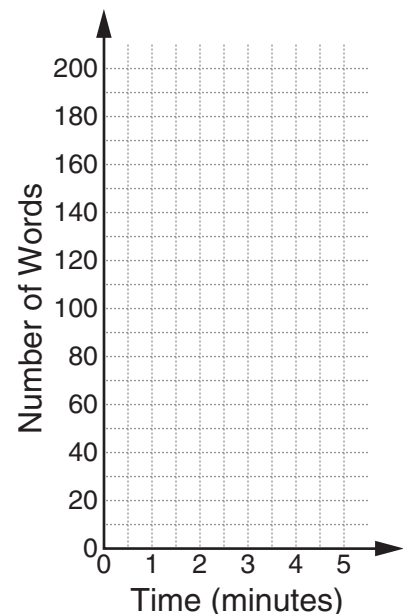
- 33.** Use the circle at the right to calculate the following:
Use 3.14 as an approximation for π .

- a.** Diameter: _____
- b.** Radius: _____
- c.** Circumference: _____
- d.** Area: _____



- 34.** Complete the table. Then graph the data in the table.
Rule: Number of words = minutes * 46 words

Time (min)	Number of Words
1	
4	184
3	
	92
	115



Name _____ Date _____ Time _____

LESSON 12-9 End-of-Year Assessment

1. a. Write five hundred forty-six million, three hundred nine thousand, forty-one in standard notation.
546,309,041

b. Circle the digit in the ten-thousands place.

c. Underline the digit in the ten-millions place.

2. a. Write five and three hundred eighty-seven thousandths in standard notation.
5.387

b. Circle the digit in the thousandths place.

c. Underline the digit in the tenths place.

3. Write 3,980,300.045 in expanded notation.
3,000,000 + 900,000 + 80,000 + 300 + 0.04 + 0.005

4. Write each fraction in its simplest form.
a. $\frac{28}{3} = \frac{9\frac{1}{3}}$ b. $\frac{18}{24} = \frac{3}{4}$ c. $11\frac{54}{72} = 11\frac{3}{4}$

5. Find the missing number.
a. $\frac{1}{5} = \frac{19}{x}$ $x = \underline{95}$ b. $\frac{8}{20} = \frac{s}{10}$ $s = \underline{4}$
c. $\frac{n}{120} = \frac{3}{4}$ $n = \underline{90}$ d. $\frac{36}{m} = \frac{4}{7}$ $m = \underline{63}$

6. Write the prime factorization for 72. $2 * 2 * 2 * 3 * 3$

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Name _____ Date _____ Time _____

LESSON 12-9 End-of-Year Assessment continued

7. Mr. Hernandez's fifth grade students measured their heights to the nearest centimeter. Use the data in the table to create a bar graph below. Label the parts of the graph.

Height (cm)	Number of Students
135	1
137	2
145	4
147	3
148	1
150	5
152	2
157	1
165	1

a.

Use the data above to find the following landmarks.

b. Median: 147.5 cm or 147 $\frac{1}{2}$ cm

c. Mode: 150 cm

d. Mean (rounded to the nearest cm): 148 cm

e. What would happen to the median if two students were added to the class data and both measured 146 centimeters?
The median would change to 147.

8. Add or subtract.
a. $-5 + (-5) = \underline{-10}$ b. $8 - (-20) = \underline{28}$ c. $10 + (-3) = \underline{7}$

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Name _____ Date _____ Time _____

LESSON 12-9 End-of-Year Assessment continued

9. Draw a line to match each sentence to the name of the correct geometric solid.

a. I have 6 congruent square faces. square pyramid

b. I have a square base, and all of my other faces are triangles. cube

c. I have 2 congruent triangular bases, and all of my other faces are rectangles. cone

d. I have a special vertex called an apex and a curved surface. triangular prism

10. a. Each square in the grid below has an area of 1 square centimeter. What is the area of triangle END? 10 cm²

b. Draw a rectangle that has an area of 12 cm².
Sample answer:

c. What is the perimeter of this rectangle? 16 cm

Sample answer:

11. Insert parentheses to make the number sentences true.
a. $210 \div (6 * 2 + 5) = 5$ b. $144 = (18 - 12 + 42) * 3$

12. Add or subtract.
a. $6\frac{1}{8} - \frac{3}{4} = \frac{43}{8}$ or $5\frac{3}{8}$ b. $3\frac{1}{5} + 4\frac{3}{4} = \frac{159}{20}$ or $7\frac{19}{20}$

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LESSON 12-9 End-of-Year Assessment continued

13. What is the volume of the prism to the right?
24 in³ (unit)

Volume of a prism: $V = B * h$ or $V = l * w * h$

Solve. Write your answers in simplest form.

14. a. $\frac{7}{8} * \frac{14}{16} = \frac{49}{64}$ b. $12\frac{3}{8} * \frac{5}{6} = 10\frac{1}{2}$ c. $4\frac{2}{7} * \frac{3}{6} = 13\frac{4}{7}$

15. a. $10 \div \frac{1}{3} = 30$ b. $\frac{1}{8} \div 2 = \frac{1}{16}$ c. $\frac{1}{2} \div \frac{5}{6} = \frac{3}{5}$

16. Fill in the blanks.
a. $36 * 42 = 42 * \underline{36}$ b. $815 + 934 = \underline{934} + 815$
c. $34 * \underline{1} = 34$ d. $\underline{45} + 0 = 45$
e. $8 * 527 = (\underline{8} * 500) + (8 * \underline{20}) + (8 * \underline{7})$

17. Jean combined $\frac{1}{3}$ cup of corn flour with $\frac{3}{4}$ cup of white flour. Is the total amount of flour more or less than 1 cup? more
Explain. Sample answer: It has to be more than a cup because the white flour is $\frac{3}{4}$ of a cup, which is $\frac{1}{4}$ short of a whole cup. $\frac{1}{3}$ is larger than $\frac{1}{4}$.

18. The scale on Dominique's map is 1 cm = 70 mi. The distance on the map from the train station in his hometown to his cousin's house is 5.5 cm. How many miles is it to his cousin's house? 385 miles (unit)

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Name _____ Date _____ Time _____

LESSON 12-9 **End-of-Year Assessment** *continued*

19. a. Use the data in the table to make and label a circle graph. Use your Percent Circle.

Eye Colors of Ms. Brooke's Fifth Grade Class	
10%	green
25%	blue
60%	brown
5%	hazel

b. If there are 40 students in Ms. Brooke's class, how many students have hazel eyes?

2

20. Write the following in order from least to greatest.

$-\frac{1}{2}$ 0.5 0.036 -0.33 $\frac{2}{5}$ -45 $2\frac{1}{3}$

-45 $-\frac{1}{2}$ -0.33 0.036 $\frac{2}{5}$ 0.5 $2\frac{1}{3}$

least greatest

21. Complete the table.

Standard Notation	Exponential Notation	Repeated-Factor Notation
729	3^6	$3 \times 3 \times 3 \times 3 \times 3 \times 3$
1,000	10^3	$10 \times 10 \times 10$
729	9^3	$9 \times 9 \times 9$

22. Jimmy got 52 hits in his last 100 times at bat. Use probability terms to describe the chance of him getting a hit the next time at bat.

Sample answer: Jimmy's chance of getting a hit is about a 50-50 chance

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Name _____ Date _____ Time _____

LESSON 12-9 **End-of-Year Assessment** *continued*

23. Solve. Show your work.

a. $7.34 \times 45 = \underline{330.3}$ b. $9.7 \times 67.2 = \underline{651.84}$

c. $7,835 \div 12 = \underline{652 \text{ R}11}$ or $\underline{652.91\bar{6}}$ or $\underline{652\frac{11}{12}}$ d. $806.3 \div 5 = \underline{161.26}$

24. The probability of landing on the shaded sectors of the spinner is 25% or $\frac{1}{4}$; the probability of landing on white is $\frac{1}{2}$. What is the probability of landing on the striped sectors of the spinner?

$\frac{4}{12}$ or $\frac{1}{3}$

25. Complete the following statements.

a. 1 meter = 100 cm b. 137 cm = 1,370 mm

c. 4.5 m = 4,500 mm d. 9,300 mm = 9.3 m

e. 36 ft = 12 yd f. 48 in. = 4 ft

26. Use order of operations to tell whether each number sentence is true or false.

a. $0 = (-5 + 3) + 2$ false b. $40 - 15 \div 5 + 2 = 39$ true

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Name _____ Date _____ Time _____

LESSON 12-9 **End-of-Year Assessment** *continued*

27. Complete.

a. 3 $\times 9,000 = 27,000$ b. $3,200,000 = 80 \times \underline{40,000}$

c. $560,000 \div \underline{80,000} = 7$ d. $\underline{2,100,000} \div 300 = 7,000$

28. Solve. Show your work.

a. $14.95 + 7.064 = \underline{22.014}$ b. $24.71 + 569.809 = \underline{594.519}$

c. $76.9 - 46.170 = \underline{30.73}$ d. $7.083 - 0.79 = \underline{6.293}$

29. During the basketball game, Blaire shot the ball 28 times. She made 3 out of every 7 shots. How many baskets did she make? 12

30. Mark the following points on the ruler.

A: $\frac{3}{8}$ in. B: $2\frac{5}{8}$ in. C: $1\frac{3}{4}$ in. D: $1\frac{1}{2}$ in. E: $1\frac{7}{8}$ in.

31. Use what you know about angle measure to record the missing angle measurements in the figure below.

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Name _____ Date _____ Time _____

LESSON 12-9 **End-of-Year Assessment** *continued*

Use the grid at the right for Problems 32a–32d.

32. a. Plot the following points: (5, -1), (5, -3), (3, -3), (1, -1).

b. Draw line segments to connect the points to make a polygon.

c. Plot new points on the grid to make a translation of the polygon.

d. Are the two polygons you made congruent?

yes

How do you know?
Sample answer: The two trapezoids are congruent because they are the same shape and size.

Circumference of circle: $C = \pi \times d$ **Area of a circle:** $A = \pi \times r^2$

33. Use the circle at the right to calculate the following:
Use 3.14 as an approximation for π .

a. Diameter: 3 cm

b. Radius: 1.5 cm

c. Circumference: 9.42 cm

d. Area: 7.065 cm²

34. Complete the table. Then graph the data in the table.
Rule: Number of words = minutes \times 46 words

Time (min)	Number of Words
1	46
4	184
3	138
2	92
2.5	115

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