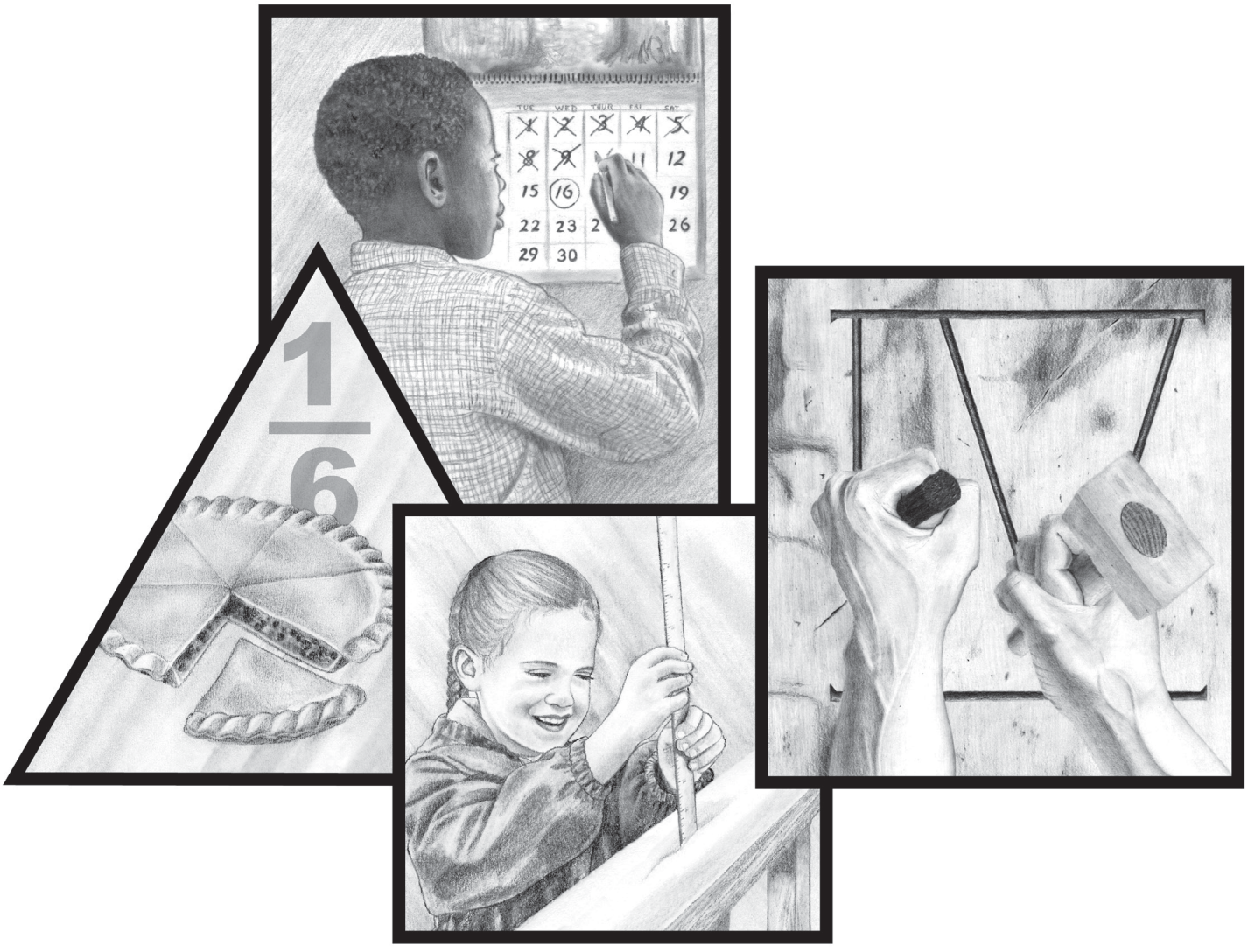
Mathematics

Diagnostic Tests 1-4

Sunrise Edition

Teacher's Manual





MATH 1-4 Diagnostic Tests
TEACHER'S MANUAL

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MATH 1-4
DIAGNOSTIC TESTS

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The material in this book is
the product of the Lord's blessing
and many individuals working
together at Christian Light.

CHRISTIAN LIGHT
EDUCATION

Harrisonburg, Virginia
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Notes for the Teacher

Why Diagnostic Testing?

Diagnostic tests are specifically designed to determine where a student should begin in the curriculum. Results from these tests give better direction for placement than a student's age or grade level since the course of study varies so much between schools and curricula.

What Portion of This Booklet Should a Student Complete?

This book covers four grades—1, 2, 3, and 4. Use this chart to decide which ones to work through.

Grade Student Is Entering	Work Through Grade Levels
1	Testing not needed
2	1
3	1-2
4	2-3
5	3-4
6 and up	*Use test booklet 5-8

*You will need a different booklet to test students in Grades 6 and up.

How Should the Test be Administered?

Time. This is not a timed test. Students may take as much time as needed. Give periodic breaks, at least five to ten minutes every hour, and more often for younger students. Ideally, testing should be spread over a two-day period. Test weariness gives unreliable test results.

Guidance. You may help students understand instructions; however, do not hint at solutions to problems.

Calculators. There are no designated calculator exercises in this booklet. Calculators should not be used.

Environment. Inform students that the test is important, but avoid a tense atmosphere. Help them to feel that the best they can do is good enough. Check comfort factors such as lighting and ventilation. Keep noise and other disturbances to a minimum.

Progress. **For Grades 1-4 (Sunrise Math)** Since the different concepts in Sunrise Edition are learned incrementally and spread throughout the year, these levels are tested by entire level, and not by individual LightUnits. The activities in each test are grouped by concepts. The student should begin with the first concept and do as many activities as possible in each group.

How Do I Score the Test?

Using the answers in the Teacher's Manual, put a mark through the number of each question the student answered incorrectly.

For Grades 1-4 (Sunrise Math). Determine the number of activities done correctly out of the total for each level.

How Do I Then Determine Placement?

Use the **Diagnostic Test Summary** page found on page vii of this book.

1. Fill in the **Diagnostic Test Summary** on page vii of this booklet.
2. **For Grade 1 (Sunrise Math).** If the student has 40 or more correct answers, he is prepared for Grade 2. If less than 40 are correct, the student is not prepared for Grade 2, and should do all or most of *Sunrise Math Grade 1* before entering Grade 2. If the number correct is in the upper thirties, check the test for an unusual weakness in one or more concepts. If most errors were made in one or two groups, perhaps some remedial work could adequately prepare the child for the next level. However, exercise caution. It is better to build confidence in the child by letting him move quickly through material at an easier level than to frustrate him with a higher level than he can efficiently manage.

   For Grade 2 (Sunrise Math). If the student has 55 or more correct answers, he is prepared for Grade 3. If less than 55 are correct, the student is not prepared for Grade 3, and should begin with *Sunrise Math Grade 2*.

   For Grade 3 (Sunrise Math). If the student has 75 or more correct answers, he is prepared for Grade 4. If less than 75 are correct, the student is not prepared for Grade 4, and should begin with *Sunrise Math Grade 3*.

   For Grade 4 (Sunrise Math). If the student has 64 or more correct answers, he is prepared for Grade 5. If less than 64 are correct, the student is not prepared for Grade 5 and should begin with *Sunrise Math Grade 4*.

If you have questions or need further assistance, feel free to contact CLE by phone (540-434-0750), FAX (540-433-8896), E-mail (homeschool@christianlight.org), or write us at P.O. Box 1212, Harrisonburg, VA 22803-1212.

Note About Diagnostic Testing for Sunrise Math

Sunrise Math uses an incremental approach, teaching various concepts throughout each level, rather than grouping certain math concepts by LightUnit. Therefore, the diagnostic tests evaluate performance by concepts rather than LightUnits.

If a student's score on a particular grade level is below our recommended score for adequate performance in that level, take a second look at the concepts tested. The student may be weak in only one or two areas. For example, algebra and geometry concepts in Sunrise Math tend to be a little more advanced than those in some other curricula. If the student is competent in other areas, and you are willing to spend extra time doing necessary remedial work with this student in the concepts he has never mastered, you are probably safe to place him in that particular level even if his total score is below the one recommended.

A student whose total score is well below the recommended level for proficiency will likely face frustration if he is placed into a higher level than he is ready for. If it is important that he catch up to his "correct" grade level due to his age or parental or school expectations, the teacher may need to provide considerable remedial help. Or the student could work in a previous level, completing several lessons a day and skipping some of the daily review work, which he has already sufficiently mastered. This suggestion might work well for a student with good reading comprehension skills and a strong motivation to learn on his own.

These diagnostic tests are intended to give an accurate picture of what the student has learned and where he likely has weak areas. In order to maximize the satisfaction and ease of use for both student and teacher, school staff should also use their judgment of a student's academic competence and motivation as well as the available time and remedial resources in determining a student's grade placement.

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EDUCATION

Diagnostic Test Summary

Math 1-4

Name _____ Date _____

Parents _____

LightUnit	Amount Correct	LightUnit	Amount Correct
Grade 1	_____	Grade 3	_____
Grade 2	_____	Grade 4	_____

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Grade 1

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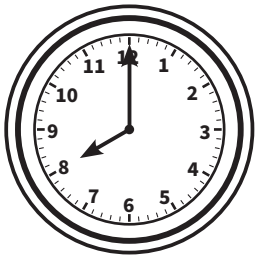
Clock ☐ of 4 problems correct

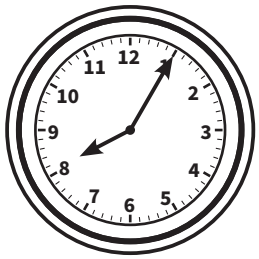
Write the time for each clock in the box.

1. 

8:00

2. 

6:35

3. 

8:05

Write how many minutes are in one hour.

4. 60 minutes

Addition ☐ of 5 problems correct

Write the sums.

5. 2 + 3 + 4 = 9

6. 0 + 6 + 2 = 8

7. 3 + 5 + 1 = 9

8.
$$\begin{array}{r} 6 \\ 2 \\ +\ 1 \\ \hline 9 \end{array}$$

9.
$$\begin{array}{r} 1 \\ 0 \\ +\ 7 \\ \hline 8 \end{array}$$

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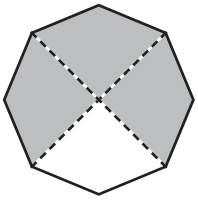
Fractions ☐ of 6 problems correct

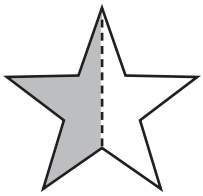
Circle the fraction that shows how many parts are colored.

10.



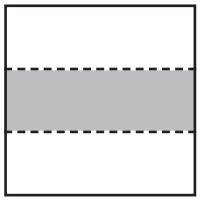
$\frac{1}{4}$ $\frac{3}{4}$ $\frac{2}{4}$

11.



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

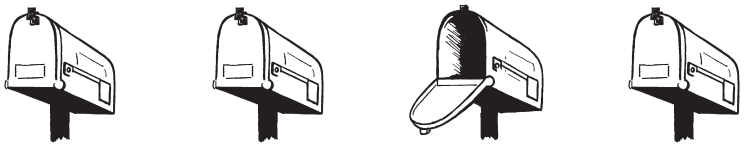
12.



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

Circle the fraction that shows how many mailboxes are open.

13.



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

Circle $\frac{1}{2}$ of the butterflies.

14.



Write the answers.

15. 4 + 4 = **8** $\frac{1}{2}$ of 8 = **4**

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Numbers ☐ of 5 problems correct

Write the numbers that come before and after.

16. **135** 136 **137**

Circle the number that comes between 65 and 75.

17. 22 80 (70)

Circle the group of odd numbers.

18. 8 4 22 10 | (9 13 5 27)

Write the number.

19. two hundred two **202**

Write the number for each place.

219

20. **9** ones place **1** tens place **2** hundreds place

Addition and Subtraction ☐ of 5 problems correct

Write the answers.

21.
$$\begin{array}{r} 23 \\ +\ 64 \\ \hline \mathbf{87} \end{array}$$

22.
$$\begin{array}{r} 97 \\ -\ 74 \\ \hline \mathbf{23} \end{array}$$

23.
$$\begin{array}{r} 57 \\ +\ 22 \\ \hline \mathbf{79} \end{array}$$

24.
$$\begin{array}{r} 923 \\ +\ 72 \\ \hline \mathbf{995} \end{array}$$

25.
$$\begin{array}{r} 63 \\ +\ 35 \\ \hline \mathbf{98} \end{array}$$

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Grade 1 Note to Canadian users: You may substitute numbers 26-28 with exercises in counting Canadian coins in the U.S. amounts shown.

Money ☐ of 6 problems correct

Count the money and write the amount. Use the ¢ sign for numbers 26 and 27. Use the $ sign for number 28.

26. 

77¢

27. 

31¢

28. 

$3.00

Read and write the amount. Use $ signs and decimal points.

29. seven dollars and ten cents $7.10

30. three dollars $3.00

Underline the correct way to read $4.24.

31. four twenty-four

four dot twenty-four

four dollars and twenty-four cents

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Addition and Subtraction ☐ of 5 problems correct

Write the answers.

32.
$$\begin{array}{r} 96 \\ -\ 52 \\ \hline \boxed{44} \end{array}$$

33.
$$\begin{array}{r} 45 \\ +\ 23 \\ \hline \boxed{68} \end{array}$$

34.
$$\begin{array}{r} 998 \\ -\ 426 \\ \hline \boxed{572} \end{array}$$

35.
$$\begin{array}{r} 496 \\ -\ 34 \\ \hline \boxed{462} \end{array}$$

36.
$$\begin{array}{r} 265 \\ +\ 424 \\ \hline \boxed{689} \end{array}$$

Patterns ☐ of 4 problems correct

Write 261 in the box on the left side of the tree.

37. **261**



☐

Write > or <.

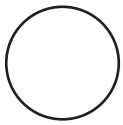
38. 5 **>** 2

39. 6 **<** 7

Color the shapes that are congruent (similar).

40. ☐







☐

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Thinking Skills ☐ of 4 problems correct

Draw the next three shapes in the pattern.

41. □○□○○□○○○□○ ___○___ ___○___ ___○___

Write numbers to finish the pattern.

42. 2, 4, 6, **8** **10** **12**

Circle *true* or *false*.

43. Birds have four legs. **true** **(false)**

44. God loves everyone. **(true)** **false**

Addition and Subtraction ☐ of 5 problems correct

45.
$$\begin{array}{r} 89 \\ -\ 26 \\ \hline 63 \end{array}$$

46.
$$\begin{array}{r} 76 \\ -\ 33 \\ \hline 43 \end{array}$$

47.
$$\begin{array}{r} 988 \\ -\ 653 \\ \hline 335 \end{array}$$

48.
$$\begin{array}{r} 578 \\ -\ 34 \\ \hline 544 \end{array}$$

49.
$$\begin{array}{r} 544 \\ +\ 353 \\ \hline 897 \end{array}$$

Measurements ☐ of 4 problems correct

Measure the length of the pencil.

50. 

4 inches

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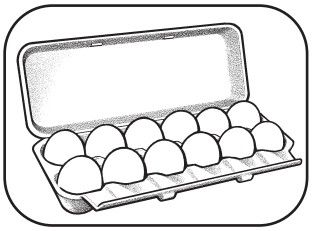
Use your ruler to draw a line 6 centimeters long. Start at the dot.

51. •———————————

52. 1 foot equals **12** inches.

53. Circle the group that is a dozen.







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Story Problems ☐ of 7 problems correct

54. "Susan," called Mother. "Please go to the garden and pick 4 green peppers and 2 cucumbers."

How many vegetables did Susan pick?

4 + **2** = **6** vegetables

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55. “I saw 4 robins yesterday morning on the way to school. This morning I saw 3,” said James.

How many robins did James see altogether?

4 + 3 = 7 robins



56. Janice was very sick. On Tuesday 4 of her friends visited her. On Thursday 6 friends came to visit.

How many friends visited Janice on Tuesday and Thursday?

4 + 6 = 10 friends



57. Mother picked 9 quarts of strawberries. She gave 3 quarts to Mrs. Jones.

How many quarts of strawberries did she have left?

9 – 3 = 6 quarts of strawberries

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58. Miss Mary put 8 eggs in the incubator. After a few weeks, 6 of the eggs hatched.

How many eggs did not hatch?

8 – 6 = 2 eggs



59. Kenneth counted 9 geese on the pond. 4 geese flew to the cornfield.

How many geese were left on the pond?

9 – 4 = 5 geese



60. It snowed all day on Wednesday. George measured 4 inches on the deck. On Friday it snowed 3 more inches.

How many inches of snow fell on the two days?

4 + 3 = 7 inches

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Grade 2

Sunrise Edition

Addition and Subtraction ☐ of 6 problems correct

Write the answers.

1.
$$\begin{array}{r} {\scriptstyle 1}\,64 \\ +\,29 \\ \hline 93 \end{array}$$

2.
$$\begin{array}{r} {\scriptstyle 7\,1}\,\not{8}2 \\ -\,26 \\ \hline 56 \end{array}$$

3.
$$\begin{array}{r} \$\,{\scriptstyle 1}\,2.34 \\ +\,6.83 \\ \hline \$\,9.17 \end{array}$$

4.
$$\begin{array}{r} \$\,6.25 \\ -\,2.04 \\ \hline \$\,4.21 \end{array}$$

5.
$$\begin{array}{r} 5\,{\scriptstyle 1}\,32 \\ 13 \\ +\,26 \\ \hline 571 \end{array}$$

6.
$$\begin{array}{r} {\scriptstyle 5\,1}\,\not{6}25 \\ -\,232 \\ \hline 393 \end{array}$$

Calendar ☐ of 5 problems correct

Write the answers.

7. 1 week = **7** days

8. 1 year = **12** months

Number the months in order.

9.

7 July
1 January
10 October
5 May
3 March
8 August
9 September
2 February
6 June
11 November
4 April
12 December

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Answer the questions from the calendar page.

10. Andrew's class planned to take a field trip on the third Tuesday in May.

What day is that in May? **16**

11. What day of the week is May 30?

Tuesday

May

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

Clock ☐ of 4 problems correct

Write the answer.

12. 1 day = **24** hours

Circle the sensible time.

13. pick flowers for Grandmother — 4:30 a.m. — (4:30 p.m.)

14. wash the breakfast dishes — (7:30 a.m.) — 7:30 p.m.

Write the time shown on the clock.



15. **6:43**

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Addition and Subtraction ☐ of 5 problems correct

Write *sum* **or** *difference* **or** *addend.*

16. In 7 + 8 = 15, 15 is the _____ **sum** _____.

17. In 63 + 24 = 87, the first _____ **addend** _____ is 63.

18. In 53 – 22 = 31, 31 is the _____ **difference** _____.

Set up the problems and solve.

19. 427 + 53

Set up the problem.

```
 427
+53
480
```

20. 964 – 52

Set up the problem.

```
 964
–52
912
```

Fractions ☐ of 4 problems correct

△ **Read the fractions aloud.**

21. $\frac{4}{6}$ **22.** $\frac{2}{3}$ **23.** $\frac{1}{2}$

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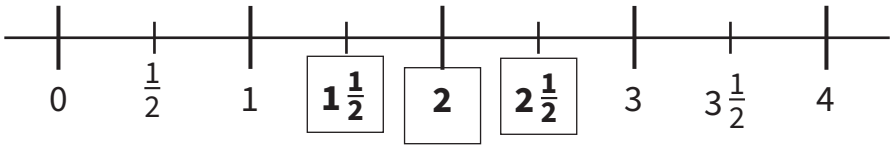
Fill in the missing parts of the number line.

24.



Geometry ☐ of 16 problems correct

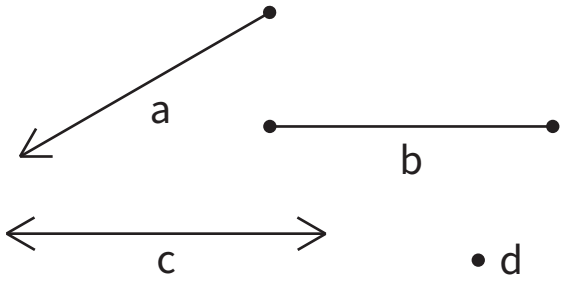
Write the letter of each figure beside its name.

25. **a** ray

26. **d** point

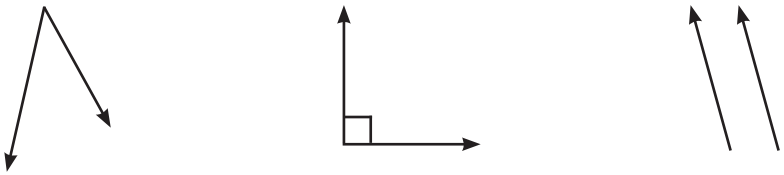
27. **c** line

28. **b** line segment



Mark the right angle with a little square.

29.



Circle the polygon.

30.



Use a ruler. Draw a line segment to connect points S and T.

31.



Use a ruler. Draw a line through points J and K.

32.



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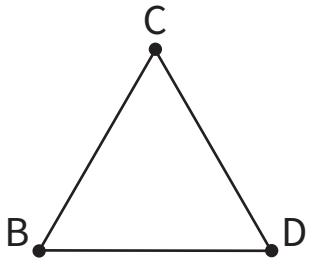
Write the correct name on the blank.

33. Name the line segment. **MN or NM**



34. Write the name of the triangle. **BCD** **or CBD, CDB, etc.**



Write the letter of the polygon beside the name of its shape.

35. triangle **b**

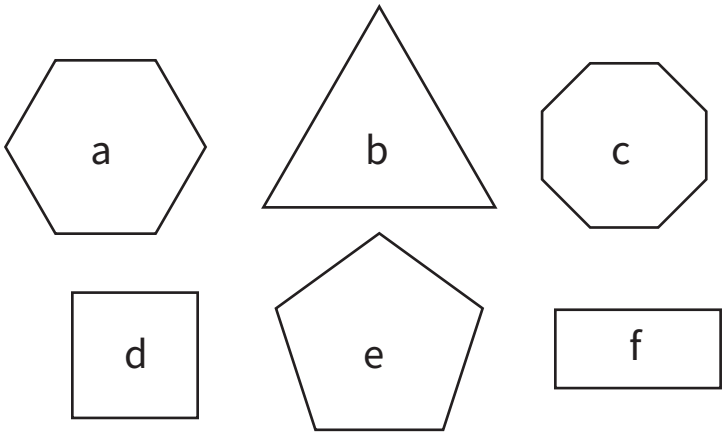
36. pentagon **e**

37. square **d**

38. hexagon **a**

39. octagon **c**

40. rectangle **f**



Logic ☐ of 1 problem correct

Which is it? Circle the correct picture.

41. It is a fruit.
It is not the third fruit in the row.
It has many tiny seeds on the outside.



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Measures ☐ of 9 problems correct

Write the answers.

42. 1 yard = **36** inches

43. 1 gallon = **4** quarts

44. 1 pint = **2** cups

45. 1 quart = **2** pints

46. freezing temperatures = **32°F** **0°C**

47. 1 yard = **3** feet

48. 1 meter = **100** centimeters

49. 1 quart = **4** cups

Circle which measurement would be best for measuring your classroom.

50. (meter) inch centimeter

Money ☐ of 2 problems correct

Show 2 ways to make 86¢.
Do not use the coins that have a zero in the box.

86¢

	quarters	dimes	nickels	pennies
51.	**3**	0	**2**	**1**
52.	0	**8**	**1**	**1**

(Other correct answers are possible.)

Multiplication ☐ of 8 problems correct

Write the products.

53. 6 × 2 = **12**

54. 1 × 12 = **12**

55. 3 × 10 = **30**

56. 5 × 5 = **25**

57. 16 × 0 = **0**

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Circle *true* **or** *false***.**

58. In 4 × 3 = 12, 4 and 3 are the factors. **(true)** **false**

59. In 6 × 5 = 30, 5 is the product. **true** **(false)**

60. Factors can be multiplied in any order. **(true)** **false**

Numbers ☐ of 4 problems correct

Finish counting by 3's.

61. **3** **6** **9** **12** **15** **18** **21** **24** **27** **30**

Finish counting by 4's.

62. **4** **8** **12** **16** **20** **24** **28** **32** **36** **40**

Write the numbers.

63. four thousand, three **4,003**

64. six thousand, twenty-four **6,024**

Patterns/Relations ☐ of 8 problems correct

Finish each number sentence by writing = or ≠.

65. 42 [**≠**] 16

66. 17 – 9 [**=**] 8

Write the numbers in order from least to greatest.

726 235 645 213

67. **213** **235** **645** **726**

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Write the number that is halfway between these tens or hundreds.

68. 60 **65** 70

69. 300 **350** 400

Write the tens that come before and after.

70. **70** 73 **80**

Write the hundreds that come before and after.

71. **300** 368 **400**

Circle the feather in the horizontal position.

72.





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Problem Solving ☐ of 6 problems correct

Solve the story problems in the solution box. Write and label your answer on the blanks.

73-75.

The Old Testament has 5 books of law, 12 books of history, 5 books of poetry, and 17 books of prophecy. How many books are in the Old Testament?

39 **books**

Solution Box

17
12
5
+ 5
39

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76-78.

The New Testament has 5 books of history and 21 letters. How many more letters are there than books of history?

16 **(more) letters**

Solution Box

$$\begin{array}{r} {}^{1}\cancel{2}^{1}1 \\ -\ 5 \\ \hline 1\ 6 \end{array}$$

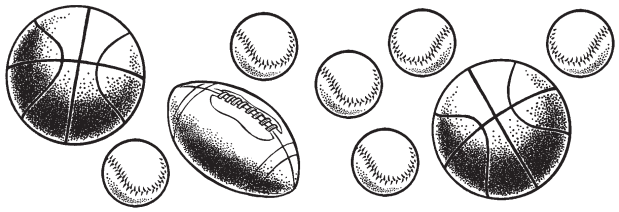
Graph and Statistics ☐ of 2 problems correct

Randall counted the balls in the closet. There were basketballs, footballs, and softballs.

Make a tally mark in the correct box for each ball Randall counted.

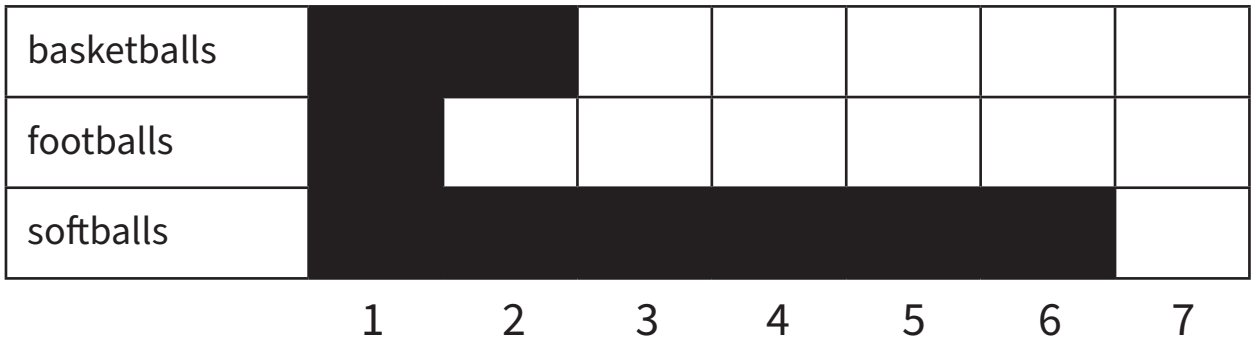
79.

basketballs	||
footballs	|
softballs	$\cancel{\text{IIII}}$ |



Color one box for each ball Randall counted.

80.



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Grade 3

Sunrise Edition

Fractions ☐ of 13 problems correct

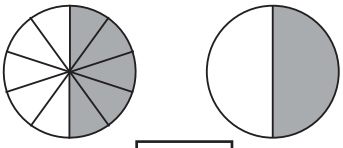
Write the fraction.

1. three-fifths $\frac{3}{5}$

2. What fraction of the animals are chipmunks? $\frac{6}{10}$



Write the fractions on the lines. Write = or ≠ in the box.



3. $\frac{5}{10}$ **=** $\frac{1}{2}$

Match.

4. **b** denominator — a. the number of parts we have or talk about

5. **a** numerator — b. bottom number in a fraction

Write the fraction.

6. denominator 7, numerator 4 $\frac{4}{7}$

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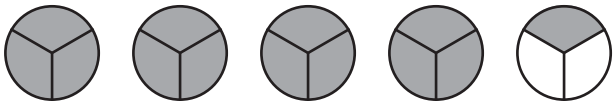
Underline the correct number word for the mixed number.

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

7. four-fifths six and five-fourths six four-fifths <u>six and four-fifths</u>

Write the mixed number that tells how many circles are shaded.

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



Order these fractions from smallest to largest.

$\frac{1}{6}$ $\frac{1}{4}$ $\frac{1}{9}$ $\frac{1}{5}$ $\frac{1}{7}$

9. **$\frac{1}{9}$** **$\frac{1}{7}$** **$\frac{1}{6}$** **$\frac{1}{5}$** **$\frac{1}{4}$**

Write < or >.

10. $\frac{2}{8}$ **<** $\frac{2}{6}$

Circle the fraction that equals 1.

11. $\frac{2}{3}$ $\frac{3}{4}$ (**$\frac{3}{3}$**) $\frac{1}{2}$

Find $\frac{1}{2}$ of each number.

12. $\frac{1}{2}$ of 24 = **12**

13. $\frac{1}{2}$ of 86 = **43**

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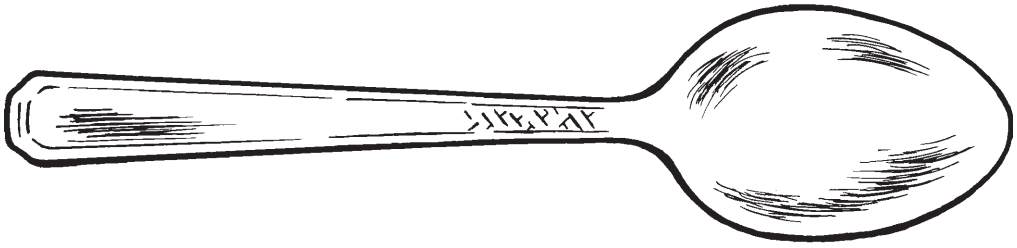
Measurement ☐ of 8 problems correct

Start at point J. Draw a line segment that is $2\frac{1}{2}$ inches long.

14. J•_____

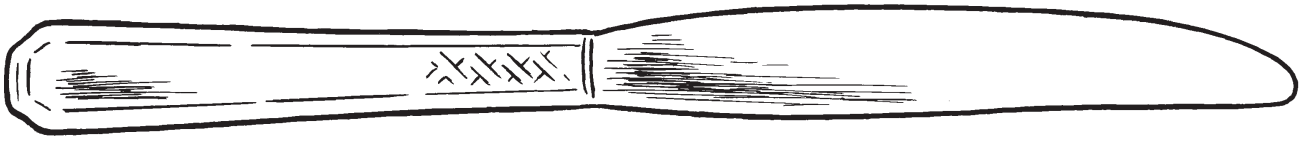
Measure to the nearest inch.

15. __5__ inches



Measure to the nearest centimeter.

16. __17__ centimeters



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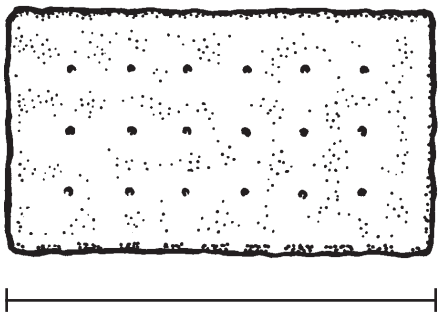
Measure with millimeters. Circle the correct answer.

17. 50 millimeters

54 millimeters

(57 millimeters)



18. The cracker is **5.7** centimeters long.

Fill in the blanks.

19. 3 yards = **9** feet

20. 2 gallons = **8** quarts

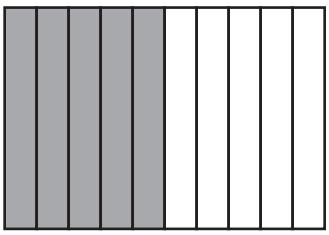
21. 6 meters = **600** centimeters

Decimals ☐ of 6 problems correct

Write the fraction and the decimal that show how much is shaded.

22. Fraction $\frac{5}{10}$

23. Decimal **0.5**



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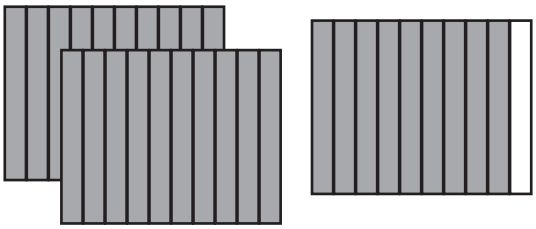
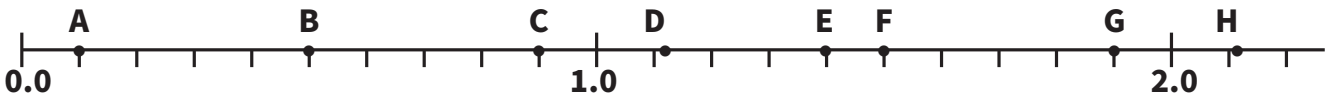
Write the mixed number and the decimal to show how much is shaded.

24. Mixed number $2\frac{9}{10}$

25. Decimal **2.9**



Use the number line to answer the question.



26. What is the decimal number for point E? **1.4**

Show these numbers from least to greatest.

27. 4.3, 4.0, 0.4 **0.4** **4.0** **4.3**

Addition ☐ of 8 problems correct

Find the sums.

28.
$$\begin{array}{r} 6,354 \\ +\,7,967 \\ \hline \mathbf{14,321} \end{array}$$

29.
$$\begin{array}{r} \$236.73 \\ +\ 529.58 \\ \hline \mathbf{\$766.31} \end{array}$$

30.
$$\begin{array}{r} 7,856 \\ 95 \\ +\ 634 \\ \hline \mathbf{8,585} \end{array}$$

31.
$$\begin{array}{r} 24 \\ 52 \\ 75 \\ +\ 38 \\ \hline \mathbf{189} \end{array}$$

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Copy and solve.

32. $7.63 + $0.45 + $0.09

$$\begin{array}{r} \$7.63 \\ 0.45 \\ 0.09 \\ \hline \$8.17 \end{array}$$

Find the sums.

33. $\begin{array}{r} 1.6 \\ +\,6.9 \\ \hline 8.5 \end{array}$ **34.** $\begin{array}{r} 0.3 \\ +\,0.9 \\ \hline 1.2 \end{array}$ **35.** $\begin{array}{r} 9.1 \\ +\,0.6 \\ \hline 9.7 \end{array}$

Numbers ☐ of 16 problems correct

Put commas where they belong.

36. 654,123 **37.** 3,820 **38.** 50,005 **39.** 300,000

Write the numbers.

40. four hundred twenty thousand, six hundred four **420,604**

41. seventy-two thousand, thirty-six **72,036**

42. eight hundred two thousand, six hundred forty **802,640**

Write the correct digit from *678,542*.

43. ones place **2**

44. hundreds place **5**

45. hundred thousands place **6**

46. ten thousands place **7**

47. tens place **4**

48. thousands place **8**

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Fill in the blanks.

49. Six and nine-tenths has **9** tenths and **6** ones.

Write the decimals.

50. nine and two-tenths **9.2**

51. four-tenths **0.4**

Subtraction ☐ of 9 problems correct

Subtract.

52.
```
  5 14 17
  6,5 8 3
– 2,9 9 6
  3,5 8 7
```

53.
```
  3 1
  4 0 9
– 2 3 6
  1 7 3
```

54.
```
  4 9 1
  5 0 3
– 4 3 7
  6 6
```

55.
```
  10  1 2 1
  1 1,4 3 2
– 7,9 1 7
  3,5 1 5
```

56.
```
  6 9 1
  $ 7.0 0
– 3.5 6
  $ 3.4 4
```

57.
```
  3 9 9 1
  4,0 0 6
– 2,3 6 8
  1,6 3 8
```

58.
```
  1 13 1
  2,4 0 6
– 7 3 4
  1,6 7 2
```

59.
```
  3 1
  4 . 3
– 1 . 9
  2 . 4
```

Copy and solve.

60. $603.64 – $43.29

```
  5     5
$ 6 0 3 . 6 4
  – 4 3 . 2 9
$ 5 6 0 . 3 5
```


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Metric Measures ☐ of 5 problems correct

Measure the length of the line segment with centimeters. Then give its length in millimeters.



61. **8** cm

62. **80** mm

Fill in the blanks.

63. 6 cm = **60** mm

64. 3 mm = **0.3** cm

65. **7** cm + 3 mm = 73 mm or **7.3** cm

Multiplication ☐ of 12 problems correct

Multiply.

66.
$$\begin{array}{r} 79 \\ \times\ 6 \\ \hline 474 \end{array}$$

67.
$$\begin{array}{r} 90 \\ \times\ 5 \\ \hline 450 \end{array}$$

68.
$$\begin{array}{r} 34 \\ \times\ 2 \\ \hline 68 \end{array}$$

Copy and solve.

69. 36 × 8

$$\begin{array}{r} {}^{4}36 \\ \times\ 8 \\ \hline 288 \end{array}$$

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Match.

70. **b** product — a. one of the numbers multiplied

71. **a** factor — b. the answer to multiplication

Circle *true* **or** *false.*

72. Factors can be multiplied in either order but the product will be the same.

true **false**

Write the products.

73. 6 × 40 = **240**

74. 8 × 700 = **5,600**

75. 70 × 9 = **630**

76. 900 × 6 = **5,400**

Circle the row that shows multiples of 7.

77. 4 8 12 16 20 24 28 32 36 40

7 14 21 28 35 42 49 56 63 70

Rounding ☐ of 14 problems correct

Write the tens that come before and after. Circle the nearest ten.

78. **40** 45 **50**

79. **10** 13 **20**

80. **60** 66 **70**

Write the hundreds that come before and after. Circle the nearest hundred.

81. **500** 593 **600**

82. **600** 650 **700**

83. **400** 435 **500**

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Round to the nearest ten.

84. 45 **50**

85. 82 **80**

86. 26 **30**

Round to the nearest hundred.

87. 542 **500**

88. 853 **900**

89. 675 **700**

Write the number that is halfway between the tens or hundreds.

90. 600 **650** 700

91. 70 **75** 80

Problem Solving ☐ of 15 parts correct

92-94.

Mr. Roberts bought 60 bushels of apples to sell in his community. He had orders for 47 bushels. After the orders were filled, how many bushels did he have left?

13 **bushels**

My Work Space

$$\begin{array}{r} {}^{5}\not{6}\,0 \\ -\,4\,7 \\ \hline 1\,3 \end{array}$$

95-97.

Alaska, the largest state in the United States, has an area of 586,400 square miles. Rhode Island, the smallest state, has an area of 1,214 square miles. How much larger is Alaska than Rhode Island?

585,186 **square miles**

My Work Space

$$\begin{array}{r} 5\,8\,6\,,\,{}^{39}\not{4}\,0\,{}^{1}\!0 \\ -\,1\,,\,2\,1\,4 \\ \hline 5\,8\,5\,,\,1\,8\,6 \end{array}$$

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98- 100.

Midwest Bible School had 126 students the first term. For second term there were 37 more students than the first term. How many students attended Midwest Bible School the second term?

163 **students**

My Work Space

$$\begin{array}{r} {}^{1}1^{1}2\ 6 \\ +\ 3\ 7 \\ \hline 1\ 6\ 3 \end{array}$$

101-

Robert sold ears of corn in bundles of 4. He had 15 bundles. How many ears of corn did he sell?

60 **ears of corn**

103.

My Work Space

$$\begin{array}{r} {}^{2}1\ 5 \\ \times\ 4 \\ \hline 6\ 0 \end{array}$$

104-106.

Mr. Layman had 24 customers in his shop on Tuesday and 36 on Wednesday. On those 2 days, 9 customers did not buy anything. How many customers bought items from Mr. Layman's shop on those two days?

51 **customers**

My Work Space

$$\begin{array}{r} {}^{1}2\ 4 \\ +\ 3\ 6 \\ \hline 6\ 0 \end{array} \qquad \begin{array}{r} {}^{5\ 1}\not{6}\ 0 \\ -\ 9 \\ \hline 5\ 1 \end{array}$$

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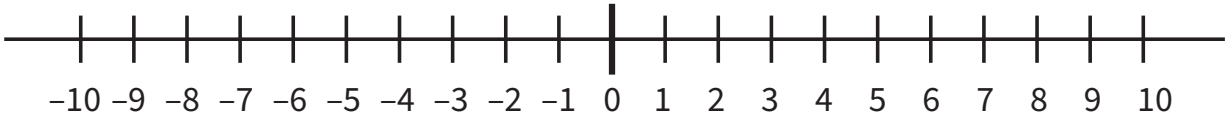
Grade 4

Sunrise Edition

Algebra ☐ of 4 problems correct



Use the number line to do the exercises. Write < or > .

1. –4 **<** 4

2. 2 **>** –6

Simplify these expressions. Work from left to right.

3. 9 + 2 – 3

11 – 3

8

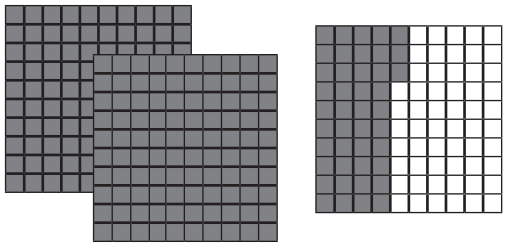
4. 6 × 4 + 3

24 + 3

27

Decimals ☐ of 8 problems correct

Write the decimal for the picture.

5.  **2.43**

Fill in the blanks with *ones, tenths,* **or** *hundredths.*

6. 4.25 has 2 **tenths**, 4 **ones**, and 5 **hundredths**.

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Order these decimals from greatest to least.

7. 4.48 4.73 4.39 4.82

4.82 **4.73** **4.48** **4.39**

Round to the nearest whole number.

8. 2.3 **2**

9. 5.6 **6**

10. 4.5 **5**

Add or subtract.

11.
$$\begin{array}{r} {}^{1} \\ 0.23 \\ 4.16 \\ +\,23.15 \\ \hline 27.54 \end{array}$$

12.
$$\begin{array}{r} {}^{3}{}^{12}{}^{10}{}^{1} \\ \not{4}\not{3}.\not{1}2 \\ -\,4.36 \\ \hline 38.76 \end{array}$$

Division ☐ of 5 problems correct

Find the quotients. Check the third problem by multiplying.

13.
$$\begin{array}{r} 9\ \text{R5} \\ 6\overline{)59} \\ \underline{54} \\ 5 \end{array}$$

14.
$$\begin{array}{r} 21 \\ 4\overline{)84} \\ \underline{8} \\ 4 \\ \underline{4} \\ 0 \end{array}$$

15.
$$\begin{array}{r} 81\ \text{R4} \\ 8\overline{)652} \\ \underline{64} \\ 12 \\ \underline{8} \\ 4 \end{array}$$

16. Check

$$\begin{array}{r} 81 \\ \times\ 8 \\ \hline 648 \\ +\ 4 \\ \hline 652 \end{array}$$

Find the quotient. Write the remainder as a fraction.

17.
$$\begin{array}{r} 69\ \frac{3}{4} \\ 4\overline{)279} \\ \underline{24} \\ 39 \\ \underline{36} \\ 3 \end{array}$$

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Factors ☐ of 8 problems correct

Underline the number that has . . .

18. 2 as a factor.	**133**	**<u>128</u>**	**43**
19. 5 as a factor.	**326**	**23**	**<u>140</u>**
20. 10 as a factor.	**<u>140</u>**	**152**	**63**
21. 3 as a factor.	**<u>36</u>**	**92**	**25**
22. 9 as a factor.	**130**	**42**	**<u>126</u>**
23. 7 as a factor.	**24**	**<u>28</u>**	**39**

Circle the common factors of each pair of numbers.

24. 8 and 32

(2), (4), (8)

3, 6, 9

5, 10

7

25. 7 and 28

2, 4, 8

3, 6, 9

5, 10

(7)

Fractions ☐ of 15 problems correct

Follow the directions.

26. Circle the improper fraction. $\frac{3}{8}$ $\left(\frac{9}{6}\right)$ $2\frac{2}{4}$

27. Change $5\frac{2}{3}$ to an improper fraction. **$\frac{17}{3}$**

28. Change $\frac{7}{4}$ to a mixed number. **$1\frac{3}{4}$**

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Solve. Write all answers in simplest form.

29. $\frac{12}{12}$ − $\frac{7}{12}$ = **$\frac{5}{12}$**

30. 1 − $\frac{3}{10}$ = **$\frac{7}{10}$**

31. $4\frac{7}{8}$ − $2\frac{4}{8}$ = **$2\frac{3}{8}$**

32. $4\frac{5}{7}$ + $6\frac{1}{7}$ = **$10\frac{6}{7}$**

33. $3\frac{7}{18}$ + $6\frac{5}{18}$ = **$9\frac{12}{18} = 9\frac{2}{3}$**

34. $3\frac{4}{5}$ + $2\frac{3}{5}$ = **$5\frac{7}{5} = 6\frac{2}{5}$**

Find the answers.

35. $\frac{1}{3}$ of 24 **8**

36. $\frac{1}{4}$ of 48 **12**

Multiply the numerators and denominators by 5 to make equal fractions.

37. $\frac{1}{4} = \frac{\mathbf{5}}{\mathbf{20}}$

38. $\frac{2}{9} = \frac{\mathbf{10}}{\mathbf{45}}$

Write the missing numerators.

39. $\frac{2}{7} = \frac{\mathbf{4}}{14}$

40. $\frac{3}{5} = \frac{\mathbf{12}}{20}$

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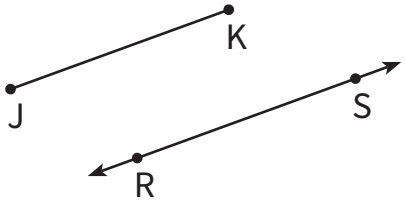
Geometry ☐ of 15 problems correct

Fill in the blanks. Use letters and symbols.

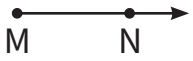


41. Name the line segment. $\overline{JK}$ or $\overline{KJ}$

42. Name the ray. $\overrightarrow{MN}$

43. Name the line. $\overleftrightarrow{RS}$ or $\overleftrightarrow{SR}$

44. $\overline{JK}$ is parallel to $\overleftrightarrow{RS}$ or $\overleftrightarrow{SR}$.



Answer the questions.

45. The sandbox in Randy's yard is 5 feet wide and 7 feet long. What is the area of the sandbox?

35 ft^2

46. What is the perimeter of Randy's sandbox?

24 ft

47. What is the volume of a box of envelopes that measures 7 inches long, 3 inches wide, and 4 inches high?

84 in^3

My Work Space

$$\begin{array}{r} 5 \\ \times\ 7 \\ \hline 35 \end{array}$$

$$\begin{array}{r} 5 \\ \times\ 2 \\ \hline 10 \end{array} \qquad \begin{array}{r} 7 \\ \times\ 2 \\ \hline 14 \end{array} \qquad \begin{array}{r} 10 \\ +\ 14 \\ \hline 24 \end{array}$$

$$\begin{array}{r} 7 \\ \times\ 3 \\ \hline 21 \end{array} \qquad \begin{array}{r} 21 \\ \times\ 4 \\ \hline 84 \end{array}$$

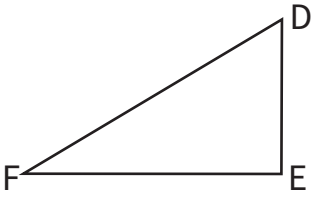
Fill in the blanks. Use letters and symbols.

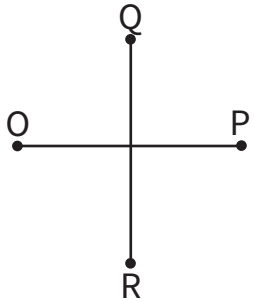
48. $\overline{OP}$ is perpendicular to $\overline{QR}$ or $\overline{RQ}$.

49. $\overline{OP}$ intersects $\overline{QR}$ or $\overline{RQ}$.

50. Name the triangle. △DEF

Order of letters may vary.





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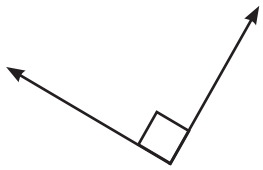
Fill in the blanks.

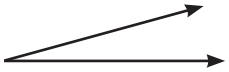
51. If the radius of a circle is 6 inches, the diameter is **12** inches.

52. If the diameter of a circle is 4 meters, the radius is **2** meters.

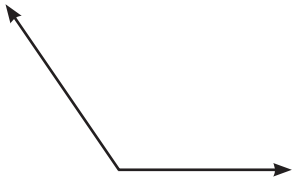
Write *acute, obtuse,* **or** *right* **on the line below each angle.**



53. **right**



54. **acute**



55. **obtuse**

Measures ☐ of 4 problems correct

Measure the line to the quarter inch. _____

56. **$2\frac{1}{4}$** in

Finish these function charts.

57.

feet	3	6	**18**	12	**9**	21	**24**
yards	1	**2**	6	**4**	3	**7**	8

58.

quarts	4	8	**16**	12	**24**	32	**20**
gallons	1	**2**	4	**3**	6	**8**	5

59.

centimeters	100	**800**	700	**400**	500	**900**
meters	1	8	**7**	4	**5**	9

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Multiplication ☐ of 7 problems correct

Write the products.

60. $2.24 × 9 = **$20.16**

61. 34 × 2 = **68**

62. 42 × 30 = **1,260**

63. 326 × 52 = 652 + 16300 = **16,952**

64. 416 × 281 = 416 + 33280 + 83200 = **116,896**

Write the products.

65.	12 × 2 = **24**	12 × 8 = **96**	12 × 9 = **108**	12 × 11 = **132**	12 × 3 = **36**	12 × 6 = **72**	12 × 7 = **84**	12 × 12 = **144**	12 × 5 = **60**	12 × 4 = **48**

Write the products.

66.	11 × 4 = **44**	11 × 6 = **66**	11 × 2 = **22**	11 × 11 = **121**	11 × 7 = **77**	11 × 3 = **33**	11 × 10 = **110**	11 × 9 = **99**	11 × 5 = **55**	11 × 8 = **88**

Numbers ☐ of 5 problems correct

Write words for the number.

67. 125,316,002 **one-hundred twenty-five million, three hundred sixteen thousand two**

Write the numbers for the words.

68. three hundred twenty-three million, four hundred thirteen thousand, four hundred forty-six **323,413,446**

69. four hundred six million, two thousand, forty **406,002,040**

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Fill in the blanks with the correct digit.

70. In 503,214,867, ___**5**___ is in the hundred millions place.

71. In 503,214,867, ___**3**___ is in the millions place.

Ratios ☐ of 2 problems correct

Write the ratios.

72. The chocolate candy bar was 10 cm long and 5 cm wide. What was the ratio of length to width? ___**10 : 5**___

73. Randy caught 4 trout and 5 bass. What was the ratio of bass to trout? ___**5 : 4**___

Rounding / Estimating ☐ of 14 problems correct

Round to the nearest dollar.

74. $24.53 ___**$25.00**___ **75.** $3.50 ___**$4.00**___ **76.** $16.23 ___**$16.23**___

Round to the nearest 10 to estimate.

77. estimate 46 – 15

___**50**___ – ___**20**___ = ___**30**___

Round to the nearest 100 to estimate.

78. estimate 236 + 651

___**200**___ + ___**700**___ = ___**900**___

Round to the nearest 10.

79. 256 ___**260**___ **80.** 323 ___**320**___ **81.** 294 ___**290**___ **82.** 395 ___**400**___

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Round to the nearest 100.

83. 3,625 **3,600** **84.** 550 **600** **85.** 3,962 **4,000**

Round to the nearest hundred, then multiply.

86. estimate 240 × 635

200 × **600** = **120,000**

Round to the nearest ten, then multiply.

87. estimate 56 × 45

60 × **50** = **3,000**

Subtraction ☐ of 4 problems correct

Write the differences.

88.
$$\begin{array}{r} \overset{5}{\$3}\overset{9}{\cancel{6}}.\overset{1}{\cancel{0}}0 \\ -\ 4.23 \\ \hline \$31.77 \end{array}$$

89.
$$\begin{array}{r} \overset{4}{\cancel{5}}\overset{9}{\cancel{0}},\overset{9}{\cancel{0}}\overset{9}{\cancel{0}}\overset{1}{\cancel{3}} \\ -\ 4,236 \\ \hline 45,767 \end{array}$$

90.
$$\begin{array}{r} \overset{3}{\cancel{4}},5\overset{1}{\cancel{9}}\overset{8}{\cancel{3}}\overset{1}{\cancel{3}} \\ -\ 657 \\ \hline 3,936 \end{array}$$

Copy and solve.

91. $43.26 – 17.06

$$\begin{array}{r} \overset{3}{\cancel{\$4}}\overset{1}{\cancel{3}}.26 \\ -17.06 \\ \hline \$26.20 \end{array}$$

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MATH 1-4 DIAGNOSTICS TESTS
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