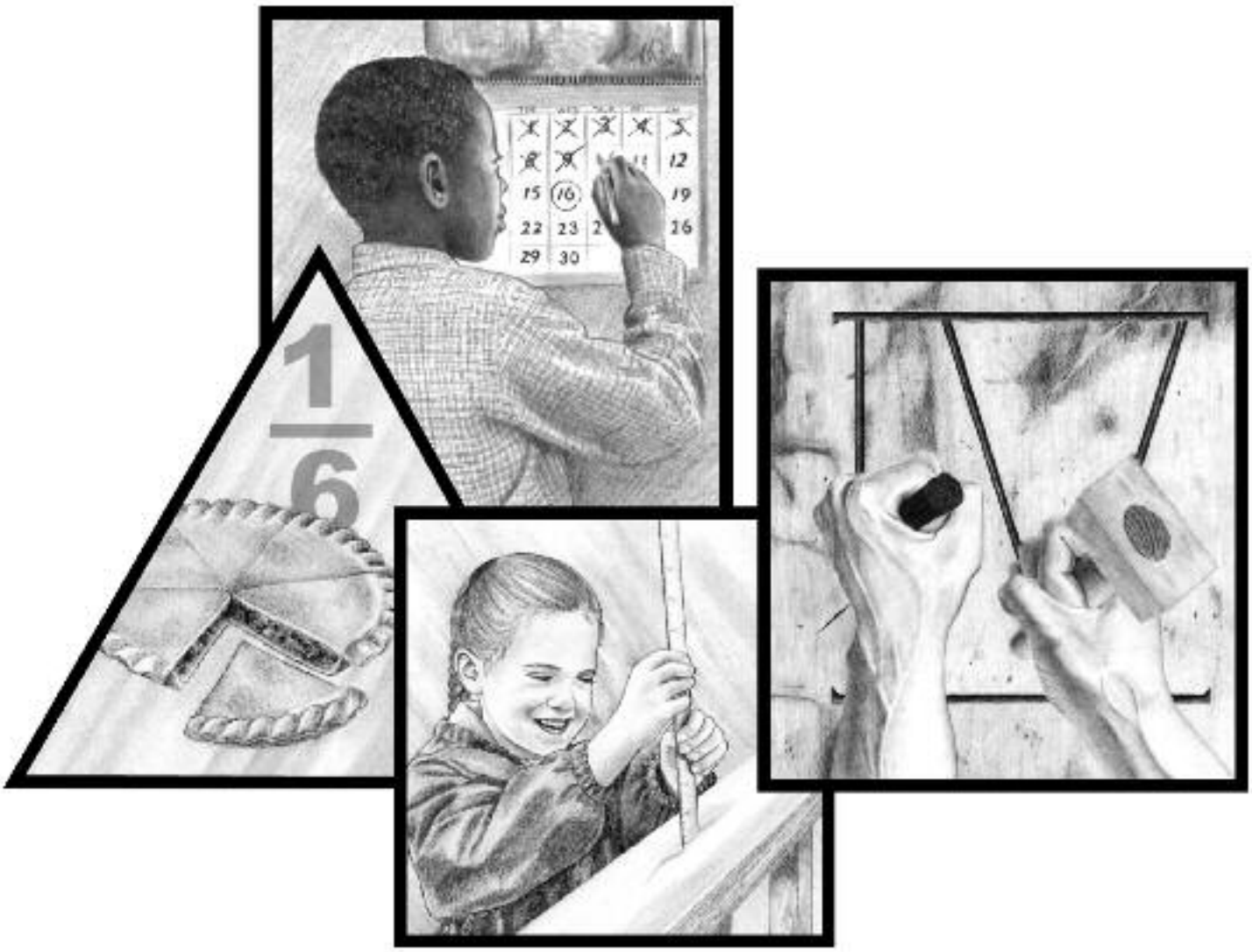
Mathematics

Diagnostic Tests 100-400

Sunrise Edition



Name _____

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MATH 100-400 Diagnostic Tests

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MATH 100-400
DIAGNOSTIC TESTS

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the product of the Lord's blessing
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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 levels—100, 200, 300, and 400. Use this chart to decide which ones to work through.

Grade Student is Entering	Work through levels
1	Testing not needed
2	100
3	100-200
4	200-300
5	300-400
6 and up	*Use test booklet 500-800

*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 Levels 100-400 (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.

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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 Levels 100-400 (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. If you are enrolled with Homeschool Plus at Christian Light Education tear out this perforated sheet and send it to Homeschool Plus.
2. **For Level 100 (Sunrise Math).** If the student has 40 or more correct answers, he is prepared for Level 200. If less than 40 are correct, the student is not prepared for Level 200, and should do all or most of *Sunrise Math 100* before entering Level 200. 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 Level 200 (Sunrise Math). If the student has 55 or more correct answers, he is prepared for Level 300. If less than 55 are correct, the student is not prepared for Level 300, and should begin with *Sunrise Math Level 200.*

   For Level 300 (Sunrise Math). If the student has 75 or more correct answers, he is prepared for Level 400. If less than 75 are correct, the student is not prepared for Level 400, and should begin with *Sunrise Math Level 300.*

   For Level 400 (Sunrise Math). If the student has 64 or more correct answers, he is prepared for Level 500. If less than 64 are correct, the student is not prepared for Level 500 and should begin with *Sunrise Math Level 400.*

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@clp.org), or write us at P.O. Box 1212, Harrisonburg, VA 22803.

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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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Diagnostic Test Summary

Math 100-400

Name _____ Date _____

Parents _____

LightUnit	Amount Correct	LightUnit	Amount Correct
Level 100	_____	Level 300	_____
Level 200	_____	Level 400	_____

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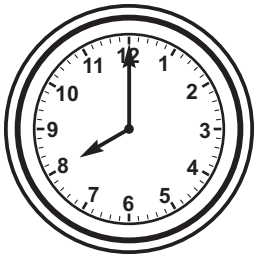
Level 100
Sunrise Edition

Clock ☐ of 4 problems correct

Write the time for each clock in the box.

1. 

☐

2.

☐

3.

☐

Write how many minutes are in one hour.

4. ☐ minutes

Addition ☐ of 5 problems correct

Write the sums.

5. 2 + 3 + 4 = ☐

6. 0 + 6 + 2 = ☐

7. 3 + 5 + 1 = ☐

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

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

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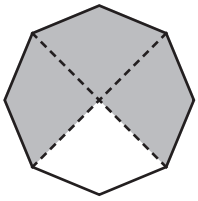
Fractions ☐ of 6 problems correct

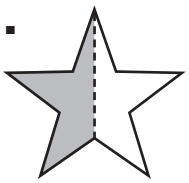
Circle the fraction that shows how many parts are colored.

10.



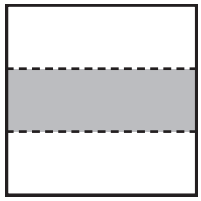
$\frac{1}{4}$ $\frac{3}{4}$ $\frac{2}{4}$

11.



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

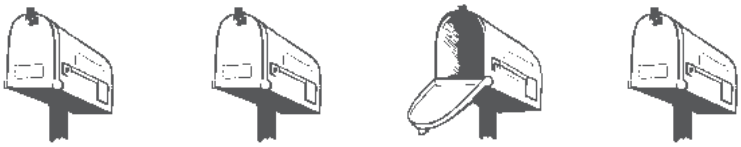
12.



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

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 = ☐ $\frac{1}{2}$ of 8 = ☐

Numbers ☐ of 5 problems correct

Write the numbers that come before and after.

16. _____ 136 _____

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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 ☐

Write the number for each place.

219

20. ____ ones place ____ tens place ____ hundreds place

Addition and Subtraction ☐ **of 5 problems correct**

Write the answers.

21.

$$\begin{array}{r} 23 \\ +\ 64 \\ \hline \square \end{array}$$

22.

$$\begin{array}{r} 97 \\ -\ 74 \\ \hline \square \end{array}$$

23.

$$\begin{array}{r} 57 \\ +\ 22 \\ \hline \square \end{array}$$

24.

$$\begin{array}{r} 923 \\ +\ 72 \\ \hline \square \end{array}$$

25.

$$\begin{array}{r} 63 \\ +\ 35 \\ \hline \square \end{array}$$

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 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. ☐

27. ☐

28. ☐

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

29. seven dollars and ten cents ☐

30. three dollars ☐

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

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

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

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

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

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

Patterns ☐ of 4 problems correct

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

37.

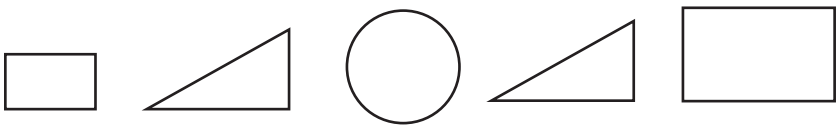
Write > **or** <.

38. 5 ☐ 2

39. 6 ☐ 7

Color the shapes that are congruent (similar).

40.



Thinking Skills ☐ of 4 problems correct

Draw the next three shapes in the pattern.

41. □○□○○□○○○□○ _____ _____ _____

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Write numbers to finish the pattern.

42. 2, 4, 6, ☐ ☐ ☐

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

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

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

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

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

Measurements ☐ **of 4 problems correct**

Measure the length of the pencil.

50. ☐ inches

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

51. •

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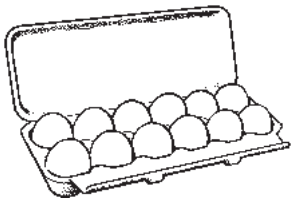
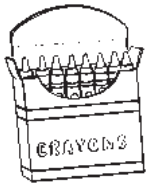
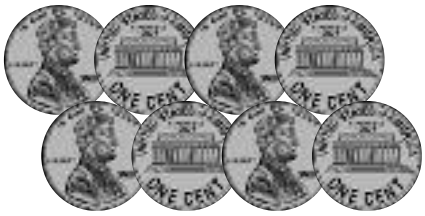
52. 1 foot equals ☐ inches.

53. Circle the group that is a dozen.







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?

☐ + ☐ = ☐ vegetables

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?

☐ + ☐ = ☐ robins

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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?

| ------ | | ------ | | ------ | friends

57. Mother picked 9 quarts of strawberries. She gave 3 quarts to Mrs. Jones. How many quarts of strawberries did she have left?

| ------ | | ------ | | ------ | quarts of strawberries

58. Miss Mary put 8 eggs in the incubator. After a few weeks 6 of the eggs hatched. How many eggs did not hatch?

| ------ | | ------ | | ------ | eggs

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59. Kenneth counted 9 geese on the pond. 4 geese flew to the cornfield. How many geese were left on the pond?

[------] ☐ [------] ☐ [------] 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?

[------] ☐ [------] ☐ [------] inches

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Level 200
Sunrise Edition

Addition and Subtraction ☐ of 6 problems correct

Write the answers.

1. 64 + 29

2. 82 − 26

3. $2.34 + 6.83

4. $6.25 − 2.04

5. 532 + 13 + 26

6. 625 − 232

Calendar ☐ of 5 problems correct

Write the answers.

7. 1 week = _____ days

8. 1 year = _____ months

Number the months in order.

9.

_____ July	_____ March	_____ June
_____ January	_____ August	_____ November
_____ October	_____ September	_____ April
_____ May	_____ February	_____ December

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Answer the questions from the calendar page.

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			

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

What day is that in May? _____

11. What day of the week is May 30?

_____

Clock ☐ of 4 problems correct

Write the answer.

12. 1 day = _____ 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. _____

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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 _____ .

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

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

Set up the problems and solve.

19. 427 + 53

Set up the problem.

20. 964 – 52

Set up the problem.

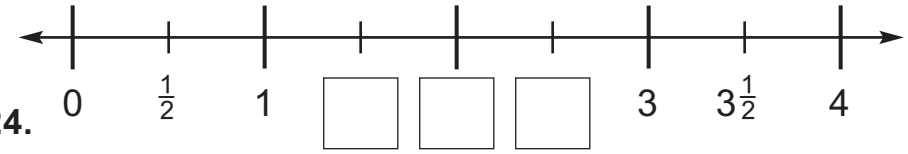
Fractions ☐ of 4 problems correct

△ **Read the fractions aloud.**

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

Fill in the missing parts of the numberline.

24.



Geometry ☐ of 16 problems correct

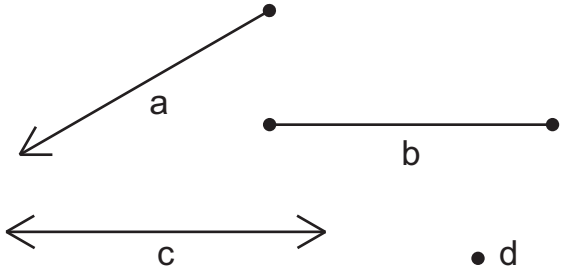
Write the letter of each figure beside its name.

25. ____ ray

26. ____ point

27. ____ line

28. ____ line segment



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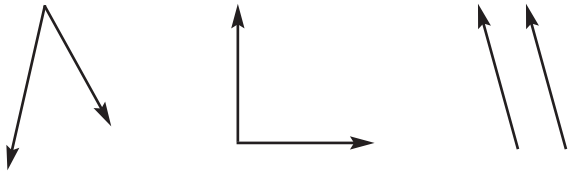
Mark the right angle with a little square.

29.



Circle the polygon.

30.

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

31.

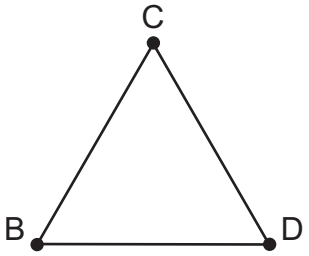
Use a ruler. Draw a line through points J and K.

32.

Write the correct name on the blank.

33. Name the line segment. _____

34. Write the name of the triangle. _____



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

35. triangle _____

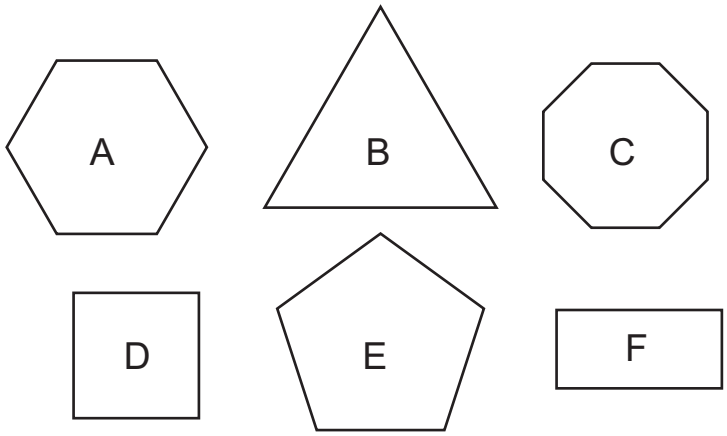
36. pentagon _____

37. square _____

38. hexagon _____

39. octagon _____

40. rectangle _____



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.

Measures ☐ of 9 problems correct

Write the answers.

42. 1 yard = _____ inches

43. 1 gallon = _____ quarts

44. 1 pint = _____ cups

45. 1 quart = _____ pints

46. freezing temperatures = _____F _____C

47. 1 yard = _____ feet

48. 1 meter = _____ centimeters

49. 1 quart = _____ cups

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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.		0		
52.	0			

Multiplication ☐ of 8 problems correct

Write the products.

	6		1		3		5		16
53.	× 2	**54.**	× 12	**55.**	× 10	**56.**	× 5	**57.**	× 0

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**

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Numbers ☐ of 4 problems correct

Finish counting by 3's.

61. 3 ____ ____ ____ 15 ____ ____ ____ ____ ____

Finish counting by 4's.

62. 4 ____ ____ ____ 20 ____ ____ ____ ____ ____

Write the numbers.

63. four thousand, three _____

64. six thousand, twenty-four _____

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. ____ ____ ____ ____

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

68. 60 ____ 70 **69.** 300 _____ 400

Write the tens that come before and after.

70. ____ 73 ____

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Write the hundreds that come before and after.

71. ____ 368 ____

Circle the feather in the horizontal position.

72.

Problem Solving ☐ of 6 parts 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?

_____ _____

Solution Box

76-78.

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

_____ _____

Solution Box

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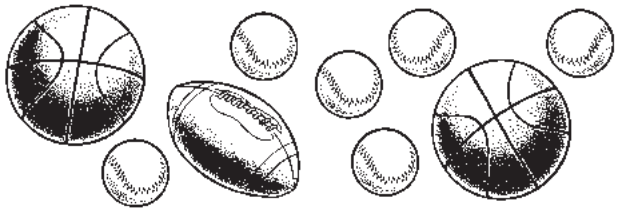
Graph and Statistics ☐ of 2 problems correct

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



Color one box for each ball Randall counted.

80.

basketballs							
footballs							
softballs							
	1	2	3	4	5	6	7

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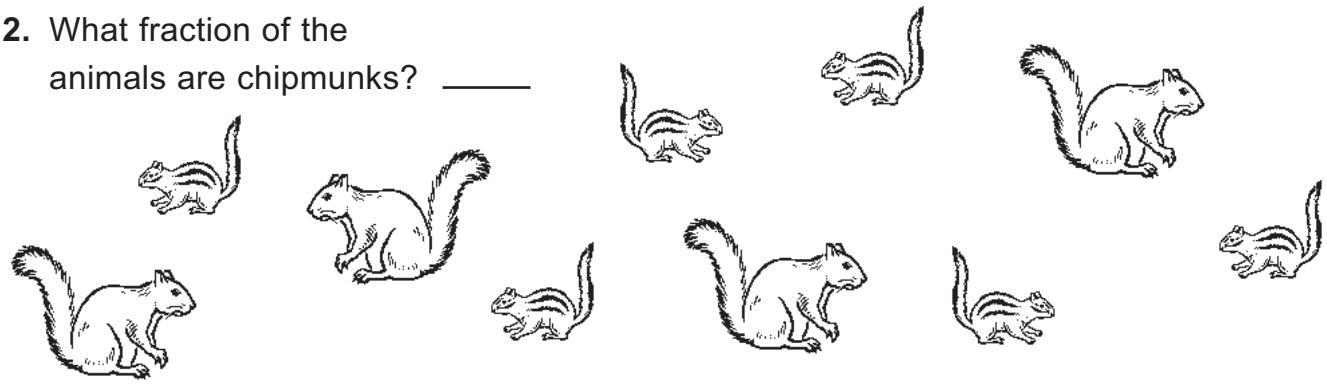
Level 300
Sunrise Edition

Fractions ☐ of 13 problems correct

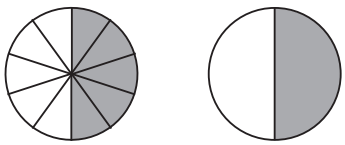
Write the fraction.

1. three-fifths _____

2. What fraction of the animals are chipmunks? _____



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



3. _____ ☐ _____

Match.

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

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

Write the fraction.

6. denominator 7, numerator 4 _____

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Level 300

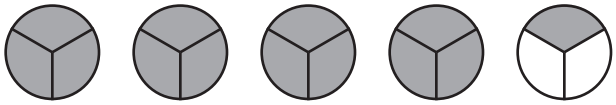
Underline the correct number word for the mixed number,

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

7. four-fifths six and five-fourths six four-fifths six and four-fifths

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

8. _____



Order these fractions from smallest to largest. $\frac{1}{6}$ $\frac{1}{4}$ $\frac{1}{9}$ $\frac{1}{5}$ $\frac{1}{7}$

9. _____ _____ _____ _____ _____

Write < or >.

10. $\frac{2}{8}$ ☐ $\frac{2}{6}$

Circle the fraction that equals 1.

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

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

12. $\frac{1}{2}$ of 24 = _____ **13.** $\frac{1}{2}$ of 86 = _____

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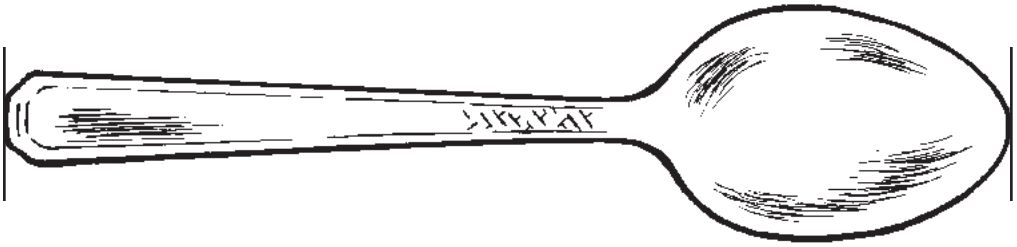
Measurement ☐ of 8 problems correct

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

14. J •

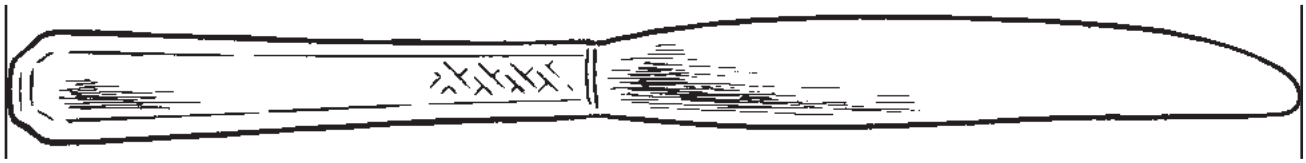
Measure to the nearest inch.

15. _____ inches



Measure to the nearest centimeter.

16. _____ centimeters



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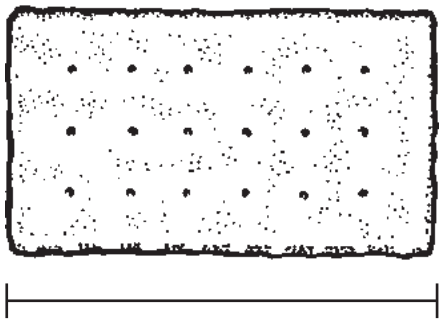
Level 300

Measure with millimeters. Circle the correct answer.

17. 50 millimeters

54 millimeters

57 millimeters



18. The cracker is _____ centimeters long.

Fill in the blanks.

19. 3 yards = _____ feet

20. 2 gallons = _____quarts

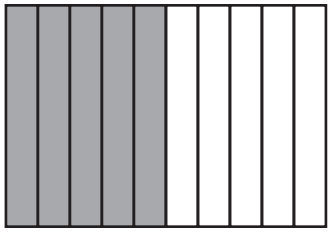
21. 6 meters = _____ centimeters

Decimals ☐ of 6 problems correct

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

22. Fraction _____

23. Decimal _____



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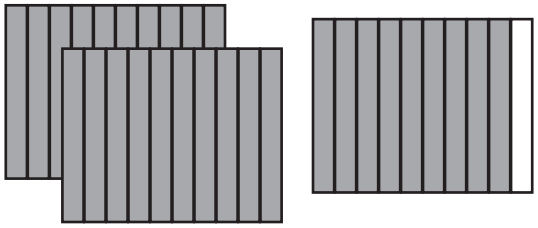
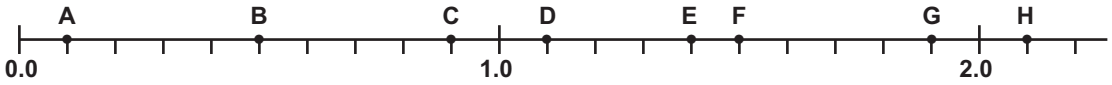
Write the mixed number and the decimal to show how much is shaded.

24. Mixed number _____

25. Decimal _____



Use the number line to answer the question.



26. What is the decimal number for point E? _____

Show these numbers from least to greatest.

27. 4.3, 4.0, 0.4 _____ _____ _____

Addition ☐ of 8 problems correct

Find the sums.

		7,856	24
6,354	$236.73	95	52
28. +7,967	**29.** + 529.58	**30.** + 634	75
			31. +38

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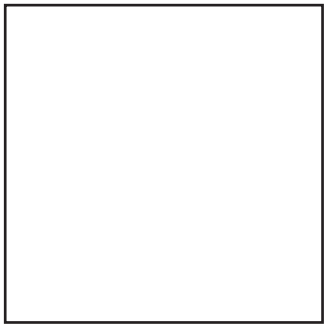
Level 300

Copy and solve.

32. $7.63 + $0.45 + $0.09



Find the sums.

	1.6		0.3		9.1
33.	+ 6.9	**34.**	+ 0.9	**35.**	+ 0.6

Numbers ☐ of 16 problems correct

Put commas where they belong.

36. 654123 **37.** 3820 **38.** 50005 **39.** 300000

Write the numbers.

40. four hundred twenty thousand, six hundred four _____

41. seventy-two thousand, thirty-six _____

42. eight hundred two thousand, six hundred forty _____

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Write the correct digit from *678,542.*

43. ones place _____

44. hundreds place _____

45. hundred thousands place _____

46. ten thousands place _____

47. tens place _____

48. thousands place _____

Fill in the blanks.

49. Six and nine-tenths has ____ tenths and ____ ones.

Write the decimals.

50. nine and two-tenths _____

51. four-tenths _____

Subtraction ☐ of 9 problems correct

Subtract.

52. 6,583 − 2,996

53. 409 − 236

54. 503 − 437

55. 11,432 − 7,917

56. $7.00 − 3.56

57. 4,006 − 2,368

58. 2,406 − 734

59. 4.3 − 1.9

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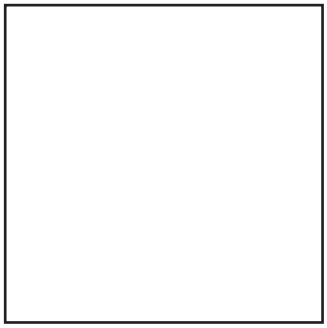
Copy and solve.

60. $603.64 – $43.29



Metric Measures ☐ of 5 problems correct

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

61. _____ cm

62. _____ mm

Fill in the blanks.

63. 6 cm = _____ mm

64. 3 mm = _____ cm

65. _____ cm + 3 mm = 73 mm or _____ cm

Multiplication ☐ of 12 problems correct

Multiply.

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

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

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

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Copy and solve.

69. 36 × 8

Match.

70. ____ product — a. one of the numbers multiplied

71. ____ 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 = _____

74. 8 × 700 = _____

75. 70 × 9 = _____

76. 900 × 6 = _____

Circle the row which 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

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Rounding ____ of 14 problems correct

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

78. _____ 45 _____ **79.** _____ 13 _____ **80.** _____ 66 _____

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

81. _____ 593 _____ **82.** _____ 650 _____ **83.** _____ 435 _____

Round to the nearest ten.

84. 45 _____ **85.** 82 _____ **86.** 26 _____

Round to the nearest hundred.

87. 542 _____ **88.** 853 _____ **89.** 675 _____

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

90. 600 _____ 700 **91.** 70 _____ 80

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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?

_____ _____

My Work Space

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?

_____ _____

My Work Space

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?

_____ _____

My Work Space

101-103. Robert sold ears of corn in bundles of 4. He had 15 bundles. How many ears of corn did he sell?

_____ _____

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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?

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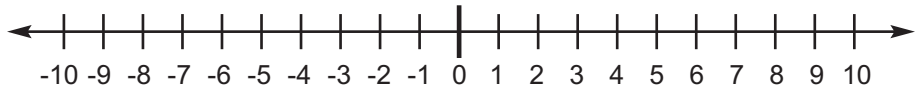
Level 400
Sunrise Edition

Algebra ☐ of 4 problems correct



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

1. -4 ☐ 4

2. 2 ☐ -6

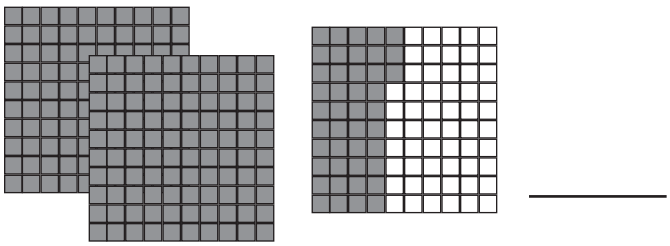
Simplify these expressions. Work from left to right.

3. 9 + 2 – 3

4. 6 × 4 + 3

Decimals ☐ of 8 problems correct

Write the decimal for the picture.

5.  _____

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

6. 4.25 has 2 _____, 4 _____, and 5 _____.

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Level 400

Order these decimals from greatest to least.

7. 4.48 4.73 4.39 4.82

_____ _____ _____ _____

Round to the nearest whole number.

8. 2.3 _____ **9.** 5.6 _____ **10.** 4.5 _____

Add or subtract.

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

12.
$$\begin{array}{r} 43.12 \\ -\ \ 4.36 \\ \hline \end{array}$$

Division ☐ of 5 problems correct

Find the quotients. Check the third problem by multiplying.

13. $6\overline{)59}$ **14.** $4\overline{)84}$ **15.** $8\overline{)652}$ **16.** Check

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Find the quotient. Write the remainder as a fraction.

17. $4\overline{)279}$

Factors ☐ of 8 problems correct

Underline the number that has . . .

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

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Fractions ☐ of 15 problems correct

Follow the directions.

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

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

28. Change $\frac{7}{4}$ to a mixed number. _____

Solve. Write all answers in simplest form.

29. $\frac{12}{12} - \frac{7}{12}$

30. $1 - \frac{3}{10}$

31. $4\frac{7}{8} - 2\frac{4}{8}$

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

33. $3\frac{7}{18} + 6\frac{5}{18}$

34. $3\frac{4}{5} + 2\frac{3}{5}$

Find the answers.

35. $\frac{1}{3}$ of 24 _____

36. $\frac{1}{4}$ of 48 _____

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

37. $\frac{1}{4}$ = _____

38. $\frac{2}{9}$ = _____

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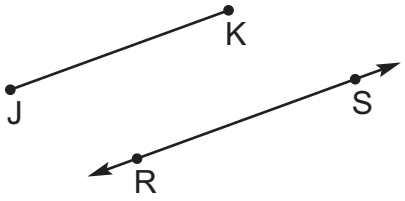
Write the missing numerators.

39. $\frac{2}{7} = \frac{\quad}{14}$ **40.** $\frac{3}{5} = \frac{\quad}{20}$

Geometry ☐ of 15 problems correct

Fill in the blanks. Use letters and symbols.

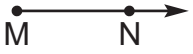


41. Name the line segment. _____

42. Name the ray. _____

43. Name the line. _____

44. $\overline{JK}$ is parallel to _____.



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?

_____ _____

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

_____ _____

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

_____ _____

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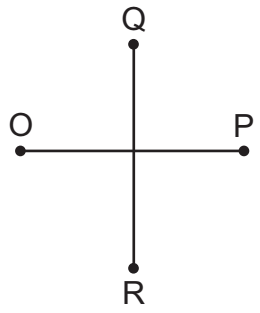
Level 400

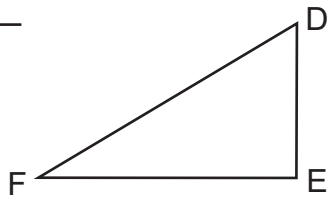
Fill in the blanks. Use letters and symbols.

48. $\overline{OP}$ is perpendicular to _____.

49. $\overline{OP}$ intersects _____.

50. Name the triangle. _____



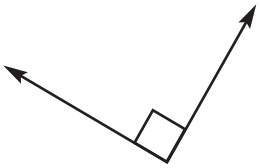


Fill in the blanks.

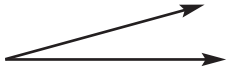
51. If the radius of a circle is 6 inches, the diameter is _____ inches.

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

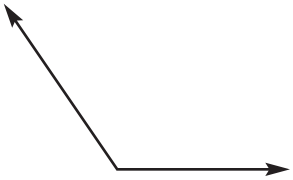
Write *acute, obtuse,* **or** *right* **on the line below each angle.**



53. _____



54. _____



55. _____

Measures ☐ of 4 problems correct

Measure the line to the quarter inch. _____

56. _____ in

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Finish these function charts.

57.

feet	3	6		12		21	
yards	1		6		3		8

58.

quarts	4	8		12		32	
gallons	1		4		6		5

59.

centimeters	100		700		500	
meters	1	8		4		9

Multiplication ☐ of 7 problems correct

Write the products.

60. $2.24 × 9 = ____

61. 34 × 2 = ____

62. 42 × 30 = ____

63. 326 × 52 = ____

64. 416 × 281 = ____

Write the products.

65.

12	12	12	12	12	12	12	12	12	12
× 2	× 8	× 9	×11	× 3	× 6	× 7	×12	× 5	× 4
____	____	____	____	____	____	____	____	____	____

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Write the products.

66.

11	11	11	11	11	11	11	11	11	11
× 4	× 6	× 2	×11	× 7	× 3	×10	× 9	× 5	× 8

Numbers ☐ of 5 problems correct

Write words for the number.

67. 125,316,002 _____

_____

Write the numbers for the words.

68. three hundred twenty-three million, four hundred thirteen thousand, four hundred forty-six

_____

69. four hundred six million, two thousand, forty _____

Fill in the blanks with the correct digit.

70. In 503,214,867, _____ is in the hundred millions place.

71. In 503,214,867, _____ is in the millions place.

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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? _____

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

Rounding / Estimating ☐ of 14 problems correct

Round to the nearest dollar.

74. $24.53 _____ **75.** $3.50 _____ **76.** $16.23 _____

Round to the nearest 10 to estimate.

77. estimate 46 – 15

_____ – _____ = _____

Round to the nearest 100 to estimate.

78. estimate 236 + 651

_____ + _____ = _____

Round to the nearest 10.

79. 256 _____ **80.** 323 _____ **81.** 294 _____ **82.** 395 _____

Round to the nearest 100.

83. 3,625 _____ **84.** 550 _____ **85.** 3,962 _____

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Round to the nearest hundred, then multiply.

86. estimate 240 × 635

_____ × _____ = _____

Round to the nearest ten, then multiply.

87. estimate 56 × 45

_____ × _____ = _____

Subtraction ☐ of 4 problems correct

Write the differences.

88.
$36.00
− 4.23

89.
50,003
− 4,236

90.
4,593
− 657

Copy and solve.

91. $43.26 – 17.06

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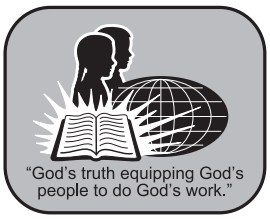

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