Diagnostic Test

Solve for the unknown value in each equation.

1. $738 \div n = 18$	2. $12t = 816$	3. $y \div 72 = 9$
4. $x \div 96 = 2$	5. $84x = 252$	6. $315 \div n = 7$
7. $24y = 384$	8. $858 \div t = 78$	9. $960 \div t = 12$
10. $x \div 78 = 5$	11. $y \div 87 = 6$	12. $71n = 852$

Complete by evaluating each expression

13. $59 + (29 \times n)$ for $n=5$	14. $92 \times (n \div 3)$ for $n=63$	15. $n \times 10 + 5$ for $n=73$
16. $n - 10 + 35$ for $n=54$	17. $(n \div 9 - 1)$ for $n=72$	18. $8 + 3 \times n$ for $n=29$

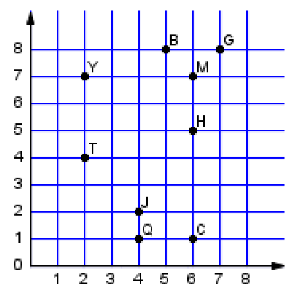
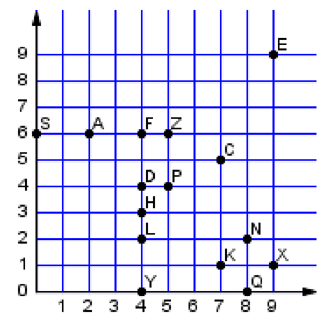
Write the probability.

19. A number cube has 6 sides. The sides are numbered 1 to 6. If the cube is thrown once, what is the probability of rolling the number 2? ____ out of ____	20. If one letter is chosen at random from the word *weakened*, what is the probability that the letter chosen is the letter "n"? ____ out of ____

Fill in the missing digits.

21.	22.
5 □ r 1 5⟌ 2 6 □ 2 □ ――― □ 1 1 0 ――― 1	□ 7 □ 1⟌ 5 □ 7 □ ――― 0 7 7 ――― □ 7 7 ――― 0

Find each ordered pair. Write the letter for the point named by the ordered pair.

23.		24.	
	(6, 7)_______ (4, 2)_______ (2, 4)_______ (6, 1)_______ (2, 7)_______		(8, 0)_______ (4, 3)_______ (7, 5)_______ (8, 2)_______ (7, 1)_______

Rewrite the amount of money in decimal form.

25. six dollars and forty-one cents ____________________	26. five dollars and two cents ____________________
27. eighty-two dollars and thirty-three cents ____________________	28. twenty-five dollars ____________________

Complete.

29. 5,481 x 86	30. 36,460 x 36	31. 9,778 x 53	32. 60,066 x 31
33. 4,822 x 34	34. 48,747 x 84	35. 6,400 x 52	36. 5,424 x 59

_____	_____	_____	_____

Divide.

37. 54 ÷ 9 = ___	38. 30 ÷ 6 = ___	39. 21 ÷ 3 = ___	40. 20 ÷ 5 = ___
41. 100 ÷ 10 = ___	42. 18 ÷ 2 = ___	43. 16 ÷ 8 = ___	44. 56 ÷ 7 = ___
45. 12 ÷ 4 = ___	46. 48 ÷ 8 = ___	47. 8 ÷ 2 = ___	48. 9 ÷ 3 = ___
49. 50 ÷ 10 = ___	50. 49 ÷ 7 = ___	51. 40 ÷ 5 = ___	52. 60 ÷ 6 = ___

Find the least common multiple.

53. 5 and 9	54. 5 and 7	55. 2, 7, and 11
56. 4 and 19	57. 9 and 18	58. 6 and 16
59. 33 and 165	60. 4, 20, and 36	61. 8, 14, and 16

Fill in the missing number.

62. 30 ÷ ___ = 5	63. ___ ÷ 8 = 8	64. 70 ÷ 10 = ___	65. 54 ÷ 9 = ___
66. ___ ÷ 7 = 3	67. 40 ÷ ___ = 10	68. 45 ÷ ___ = 9	69. 8 ÷ 2 = ___
70. 6 ÷ 3 = ___	71. ___ ÷ 10 = 8	72. ___ ÷ 7 = 6	73. 90 ÷ ___ = 10
74. 20 ÷ ___ = 4	75. ___ ÷ 2 = 9	76. ___ ÷ 3 = 3	77. 56 ÷ 8 = ___

Complete.

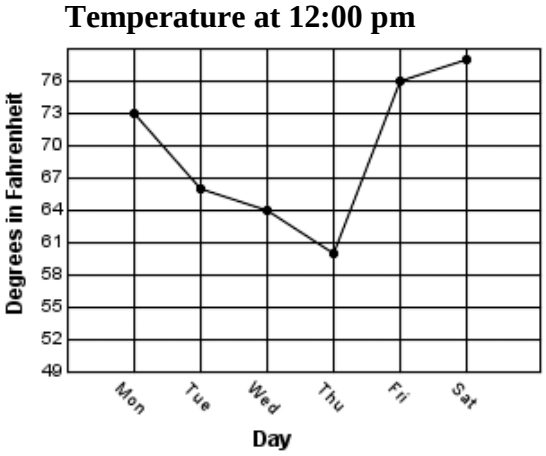
78. 4 x 1	79. 48 x 7	80. 1 x 3
81. 14 x 5	82. 12 x 7	83. 1 x 5
84. 13 x 7	85. 50 x 6	86. 1 x 9

Complete each divisibility table. Write yes if the number is divisible by the given number. Write no if it is not divisible by the given number.

87. **93**	88. **59,067**	89. **853**	90. **7,680**
by 3 _____	by 2 _____	by 2 _____	by 2 _____
by 7 _____	by 5 _____	by 5 _____	by 3 _____
by 8 _____	by 7 _____	by 8 _____	by 6 _____
by 9 _____	by 9 _____	by 9 _____	by 9 _____
by 10 _____	by 10 _____	by 13 _____	by 10 _____

Complete.

91.



a. Between which two days was there the greatest decrease in temperature?

_____

b. What was the temperature at 12:00 pm on Tuesday?

_____

c. What was the decrease in temperature from 12:00 pm on Tuesday to 12:00 pm on Wednesday?

_____

Write the probability of spinning each letter.

92.	93.	94.	95.
			
The letter *E*.	The letter *F*.	The letter *C*.	The letter *F*.
____ out of ____	____ out of ____	____ out of ____	____ out of ____

Solve each equation.

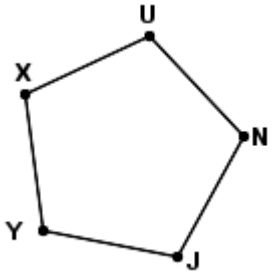
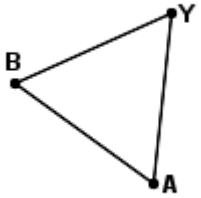
96. 44 = x - 48	97. 65 - c = 37	98. 9 = 81 - d
99. u - 50 = 2	100. 44 = 99 - g	101. 64 = 66 - t

102. s - 19 = 27	103. q - 4 = 53	104. 89 = j - 8

Solve.

1. There are 24 tissues in the box. If each person gets 6 tissues, how many people are there? _____ people	2. Kyle hung up 12 towels. If each clothesline held 4 towels, how many clotheslines were needed? _____ clotheslines

Find the value of *n*.

3.  Regular polygon YXUNJ: $\overline{JY} = n$ Perimeter = 65 in	4.  Regular polygon BYA: $\overline{BY} = n$ Perimeter = 18 ft

Each letter in each question stands for a 1-digit number. In <u>each</u> question, no two letters may stand for the same number. Two separate problems are unrelated. Find a value for each letter.

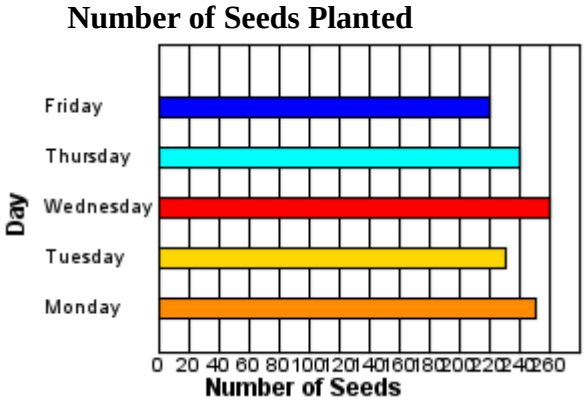
5. DAY × AND MIDDLE (Use the numbers: 9, 4, 1, 5, 8, 0, 6, and 3)	6. CALF × IS SEIZE (Use the numbers: 5, 3, 1, 7, 2, 9, 6, and 8)	7. BEE × MOP EMPTY (Use the numbers: 9, 6, 1, 4, 7, 2, and 8)

Write each number in standard form.

8. eight hundred eighty-seven thousand, four hundred ninety-two	9. 3,000 + 400 + 10 + 8
10. 7 hundreds + 9 tens + 8 ones	11. fifty
12. 90,000 + 9,000 + 800 + 70 + 7	13. fifteen

Complete.

14.



a. How many seeds were planted in all?

_____

b. How many more seeds were planted on Thursday than on Tuesday?

_____

c. How many seeds were planted in all on Tuesday and Monday?

_____

Name each figure using letters and symbols.

15. 	16. 	17. 

Complete.

18. Is $\frac{10}{3}$ greater than $3\frac{1}{3}$? Explain.	19. Is it possible to find a fraction that is smaller than any other fraction? Explain.

Rewrite each improper fraction as a mixed number.

20. $\frac{5}{5}$ =	21. $\frac{45}{8}$ =	22. $\frac{39}{9}$ =	23. $\frac{13}{2}$ =
24. $\frac{23}{7}$ =	25. $\frac{11}{4}$ =	26. $\frac{36}{6}$ =	27. $\frac{14}{3}$ =

Solve for the unknown value in each equation.

28. $x \div 16 = 433$	29. $92y = 29{,}992$	30. $9{,}776 \div t = 104$
31. $45{,}675 \div n = 1{,}015$	32. $56y = 8{,}344$	33. $t \div 42 = 1{,}497$
34. $30x = 1{,}080$	35. $56{,}640 \div n = 1{,}180$	36. $t \div 42 = 94$
37. $37{,}136 \div x = 844$	38. $y \div 37 = 179$	39. $92n = 3{,}956$

Complete the function table and write the rule for each function.

40. Rule: _____

Input	**k**	3		30	33	50	68	79
Output	**s**	9	21	36	39		74	85

Complete.

41. The area just east of Lake Ontario is a beautiful sight to see all year round according to Philip's cousin. Philip thought so too when he thought of all the winter sports there were to enjoy in upstate New York. Philip thought it was hard to imagine the three hundred fifty inches of snow that was recorded there one winter! Approximately, how many feet of snow would that be?

42. Benjamin went to a wedding last week. There were two hundred sixty-two guests from the groom's side and two hundred twenty-five guests from the bride's side. How many guests were at the wedding?

Solve. Write your answer as a mixed number in simplest form.

43. Amber bought five and three-fourths yards of red fabric. She used one and a half yards of it to make a dress. How much fabric was left?	44. Mrs. Clark only had six and a half cups of flour left in the bag. She used two and one-fourth cups of flour to make a cake. How much flour was left in the bag?

Write the probability.

45. A bag contains 14 blue marbles, 17 purple marbles, 16 green marbles, 11 yellow marbles, and 10 red marbles. What is the probability of pulling out a red marble? ____ out of ____	46. A number cube has 6 sides. The sides have the numbers 2, 7, 3, 7, 7, and 7. If the cube is thrown once, what is the probability of rolling an odd number? ____ out of ____

Complete.

47.	Circle all of the numbers that are divisible by 3.					
	319	3	96	8	65	9
	7	285	56	62	45	520
48.	Circle all of the numbers that are divisible by 5.					
	78	25	645	838	28	16
	31	89	411	10	45	22

Rewrite the amount of money in decimal form.

49. 7 pennies, 6 dimes _____	50. 1 five-dollar bill, 8 dimes, 2 nickels, 3 pennies _____
51. 4 twenty-dollar bills, 9 pennies, 2 half-dollars, 4 nickels, 1 dime _____	52. 2 ten-dollar bills, 2 quarters, 5 dimes, 3 pennies _____

Divide.

1. $9\overline{)90}$	2. $3\overline{)79}$	3. $2\overline{)87}$
4. $7\overline{)63}$	5. $6\overline{)51}$	6. $8\overline{)91}$

Complete.

7. $5 \times 2 \times 8$	8. $6 \times (9 \times 1 \times 7 \times 3)$
9. $(4 \times 2) \times (3 \times 8)$	10. $1 \times 9 \times 4 \times (7 \times 6)$
11. $5 \times 3 \times 2$	12. $5 \times 7 \times 8 \times 1$

Write each number in <u>two</u> other ways.

13. 90 + 2	14. seventy-seven thousand, seven hundred fifty-two
15. 700,000 + 70,000 + 600 + 10 + 3	16. 161,392

Complete.

17. **Daily High Temperatures in October**

Stem	Leaves
4	8 0 9 4
5	0 4 0 0 8 0
6	2 0 2 9 4 1 2 9 5
7	2

a. What is the median of the high temperatures recorded?

_____

b. What is the range of the data?

_____

c. What is the mode of the data?

_____

Circle the mixed number which is equal to the improper fraction.

18. $\frac{13}{5}$

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

19. $\frac{34}{9}$

$34\frac{4}{9}$ $3\frac{5}{9}$ $3\frac{7}{9}$ $8\frac{1}{2}$

Complete.

20. $7.23 \cdot 90.89 + 3.006$ = _____

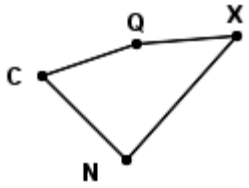
21. $13.7 \cdot 3.608 + 29.003$ = _____

22. $1.8 \cdot 1.893 + 3.04$ = _____

23. $8.6 \cdot 75.01 + 5.677$ = _____

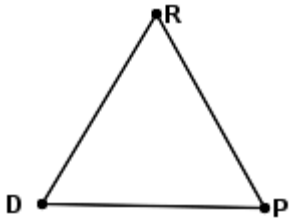
Find the perimeter of each figure.

24.



Polygon QXNC:
$\overline{QX}$ = 138 m
$\overline{XN}$ = 228 m
$\overline{NC}$ = 162 m
$\overline{CQ}$ = 138 m

25.



Regular polygon DRP:
$\overline{RP}$ = 64 yd

Complete.

26. 82 72 + 91 ___	27. 58 45 + 21 ___	28. 87 88 + 24 ___	29. 50 45 + 83 ___	30. 28 90 + 62 ___

Find the mean, median, and mode of each set of data.

31. 112, 74, 112, 73, 61, 138, 110, 79, 8, 112, and 111
32. 33, 80, 45, 160, 43, 161, 156, 159, 80, 75, 44, and 44
33. 66, 160, 12, 116, 188, 43, 187, 28, 195, and 65

Order the fractions from least to greatest.

34. $\frac{1}{5}, \frac{3}{5}, \frac{2}{5}$	35. $\frac{6}{9}, \frac{6}{10}, 1$	36. $\frac{5}{8}, \frac{7}{8}, \frac{6}{8}$
37. $\frac{1}{9}, \frac{1}{7}, \frac{1}{10}$	38. $\frac{1}{7}, \frac{1}{10}, \frac{1}{3}$	39. $\frac{3}{4}, \frac{1}{4}, \frac{2}{4}$

Write whether each event is *certain, likely, unlikely,* or *impossible*.

40. The following coins are put in a bag:  Describe the probability of picking a quarter. _____	41. A glass jar contains 10 purple marbles. Describe the probability of picking a blue marble. _____

Order the numbers from greatest to least.

42. $\frac{10}{100}$, 0.79, 0.01	43. $\frac{591}{1000}$, 0.001, $\frac{590}{1000}$
44. $\frac{15}{100}$, 0.020, $\frac{1}{10}$	45. 0.3, 0.4, $\frac{60}{100}$

Each number is rounded to the <u>nearest thousand</u>. Fill in the missing digit to make the statement true.

46. 4,79☐ rounds to 5,000	47. 1,☐72 rounds to 1,000
48. 7,☐10 rounds to 7,000	49. 55,7☐3,324 rounds to 55,733,000
50. 658,9☐2,162 rounds to 658,972,000	51. 1,21☐,392 rounds to 1,210,000

Solve for the unknown value in each equation.

52. 16,356 ÷ y = 188	53. x ÷ 58 = 54	54. 13,740 ÷ n = 687
55. 99t = 7,722	56. 68n = 8,364	57. x ÷ 26 = 2,051
58. y ÷ 46 = 111	59. t ÷ 57 = 37	60. 32,364 ÷ x = 372
61. 70n = 24,990	62. 2,706 ÷ t = 33	63. 83y = 7,470

Solve each equation.

64. c ÷ 7 = 7	65. 9 = 3w	66. 9z = 72
67. 9 = 72 ÷ s	68. 30 = 6y	69. 30 = 5b
70. 16 ÷ k = 4	71. a ÷ 2 = 2	72. 2g = 6

Key #1 - (Answer ID # 10337319)

Name _____ Date _____

1. The new baby needed a name. Mr. and Mrs. Robinson made a list. There were 50 names on the list. Aunt Kylie took 19 names off the list. Uncle William took 8 names off the list. Grandma and Grandpa took 11 names off the list. How many names were left on the list?	2. Devin and his brother went to a movie about John Glenn. The tickets were $4.75 each. They each had a $2.15 box of popcorn and a $1.17 drink. They also bought four candy bars that cost $0.74 each. They had $20 to spend. How much did they have left?
3. Meltrosa did not like her name. She wanted a different name. She wrote down all the names she knew. She put them in five groups. There were ten names in each group. How many names were there in all?	4. Fay, Jay, Kay, May, and Ray are monkeys. They think their names are too much alike. They went to the monkey name store and bought new names. They paid 4 quarters, 5 dimes, and 18 pennies for the names. How much did their new names cost?
5. Mr. White built a rectangle-shaped deck in the back of his house. He worked on it for an hour each day during National Time Management Month. By the end of the month, he had finished the 8 3/4 feet wide and 12 1/3 feet long deck. What is the perimeter of his deck?	6. Isaac picked up all the pennies he saw on the ground on his way to school. At the end of 47 days he had picked up 110 pennies. What is the average number of pennies he picked up each day? Round off your answer to the nearest whole penny.
7. Tyler made a box to keep his dog's treats. The box is a rectangle 12 inches long and 8 inches wide. What is the perimeter of the box?	8. Easton Elementary School is having a "Sign My T-Shirt Party" on White T-Shirt Day. Each student will wear a white t-shirt. When the party begins each student will sign all the other students' shirts. The principal bought drinks and cookies for the students. The drinks cost $37.14. The cookies cost $27.17. How much did the drinks and cookies cost in all?
9. Victoria made two dozen cookies for Hoodie Hoo Day. She drew faces on them with bright red icing. The circumference of each cookie is 9.42 centimeters. What is the radius of each cookie?	10. Steven didn't have much to do. It was Quiet Day and he hated being quiet. He decided to draw. First he drew a rectangle with a perimeter of 25 inches. Then he drew 2 circles inside it. The circles had a diameter of 4 inches. The rectangle was 6

	inches long. How wide was it?