6th Grade Mathematics Assessment

Name: _____
Date: _____
School: _____
District: _____

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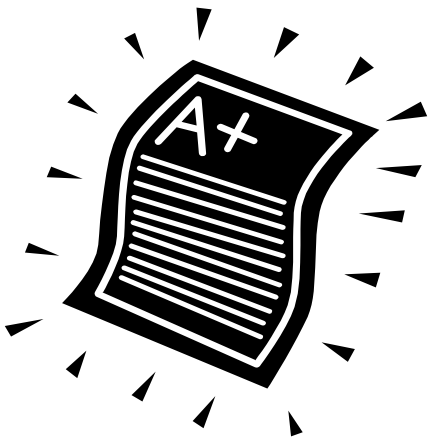
Forecast Student Test Results



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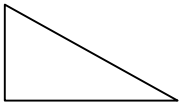
Pre Test

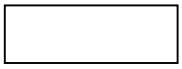
1,000 Series

Mathematics Reference Sheet

Area



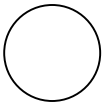
Triangle $A = \frac{1}{2} bh$



Rectangle $A = lw$

Trapezoid $A = \frac{1}{2} h\,(b_1 + b_2)$

Parallelogram $A = bh$



Circle $A = \pi r^2$

Key

b = base
h = height
l = length
w = width
$S.A.$ = surface area
d = diameter
r = radius
A = area
C = circumference
V = volume

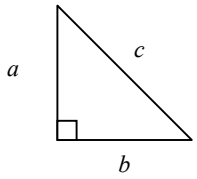
Use 3.14 or $\frac{22}{7}$ for π.

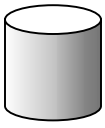
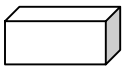
In a polygon, the sum of the measures of the interior angles is equal to $180(n - 2)$, where n represents the number of sides.

Circumference

$C = \pi d = 2\pi r$

Pythagorean Theorem $c^2 = a^2 + b^2$



		Volume	Total Surface Area
	Right Circular Cylinder	$V = \pi r^2 h$	$S.A. = 2\pi rh + 2\pi r^2$
	Rectangular Solid	$V = lwh$	$S.A. = 2(lw) + 2(hw) + 2(lh)$

Conversions

1 yard = 3 feet = 36 inches
1 mile = 1,760 yards = 5,280 feet
1 acre = 43,560 square feet
1 hour = 60 minutes
1 minute = 60 seconds

1 cup = 8 fluid ounces
1 pint = 2 cups
1 quart = 2 pints
1 gallon = 4 quarts

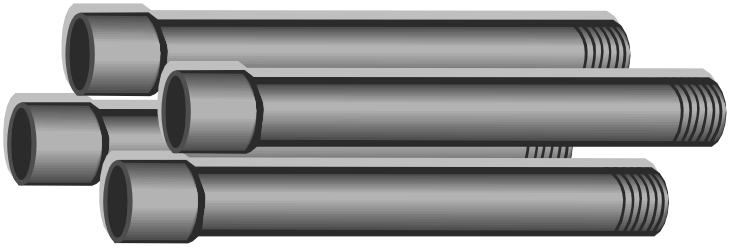
1 liter = 1000 milliliters = 1000 cubic centimeters
1 meter = 100 centimeters = 1000 millimeters
1 kilometer = 1000 meters
1 gram = 1000 milligrams
1 kilogram = 1000 grams

1 pound = 16 ounces
1 ton = 2,000 pounds

Begin with Question #45 on Your Answer Sheet for the Math Portion of the Assessment.

45. The price of apple juice recently increased from $1.10 per quart to $1.43 per quart. What was the percent of the price increase?
    A. 20%
    B. 25%
    C. 30%
    D. 28%

46. A $9\frac{3}{4}$ feet long pipe is cut into 4 equal lengths. What is the best estimate of each length?
    A. between 2 and $2\frac{1}{2}$ feet
    B. between $2\frac{1}{2}$ and 3 feet
    C. exactly 3 feet
    D. between 4 and $4\frac{1}{2}$ feet



47. Find the least common multiple of **10** and **15**.
    A. 5
    B. 15
    C. 30
    D. 150

48. What is the value of the expression **7 + 9 x 4^3**?
    A. 151
    B. 583
    C. 64
    D. 80

49. What is the value of **9^3**?
    A. 81
    B. 27
    C. 93
    D. 729

50. Which digit represents the ten-thousandths in the number **10,401.1532**?
    A. 0
    B. 2
    C. 1
    D. 3

51. How would you write 40 using Roman Numerals?
    A. XXXX
    B. IV0
    C. XL
    D. IVX

52. What fraction is equivalent to 90%?

A. $\frac{9}{10}$

B. $\frac{8}{9}$

C. $\frac{7}{8}$

D. $\frac{1}{9}$

53. What is the word form for the number **1,605,403,000**?

A. one million, six hundred and five thousand, four hundred and three
B. one billion, six hundred five million, four hundred three thousand
C. sixteen five, four hundred three thousand
D. none of the above

54. What is the inverse operation of **14 ÷ n = 7**?

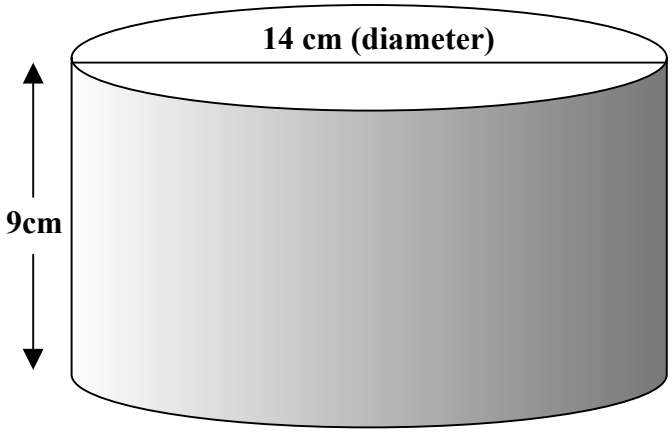
A. 7 ÷ n = 14
B. 7 x n = 14
C. 14 x n = 7
D. n ÷ 14 = 7

55. Solve: **18 + 36 ÷ 3 – 10 =**

A. 16
B. 22
C. 18
D. 20

56. Simplify: $\mathbf{\frac{1}{5} + \frac{4}{9} + \frac{7}{30} =}$

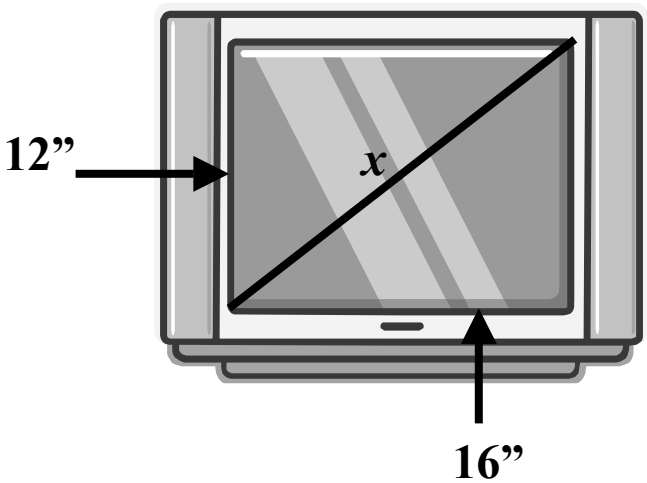
A. $\frac{79}{90}$ B. $\frac{57}{60}$ C. $\frac{154}{180}$ D. $\frac{55}{60}$



57. Find the volume of the cylinder above.
    A. 1384.74 cubic centimeters
    B. 5538.96 cubic centimeters
    C. 126 cubic centimeters
    D. 1134 cubic centimeters

58. How many milliliters are in 7 liters?
    A. 70
    B. .7
    C. .007
    D. 7000

59. A TV screen measures 12 inches by 16 inches. What is the length of its diagonal?
    A. 28”
    B. 10”
    C. 14”
    D. 20”



In the diagram below, Figure 1 is a square, and Figure 2 is a rectangle.

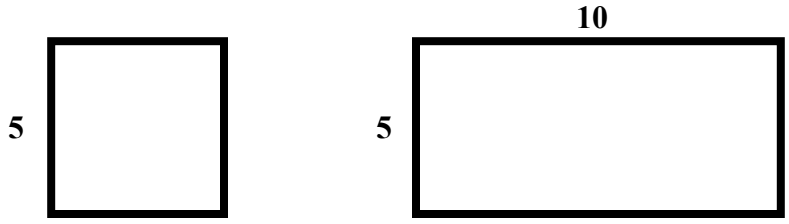
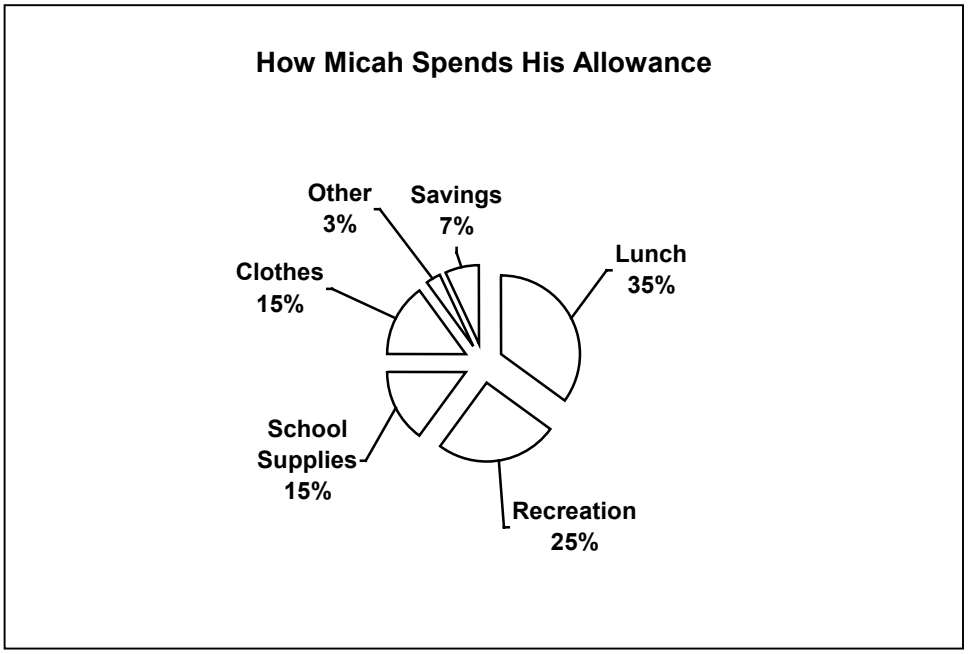


Figure 1 **Figure 2**

60. Based on the diagram, how does the area of **Figure 1** compare to the area of **Figure 2**?
    A. The area of Figure 1 is twice the area of Figure 2.
    B. The are of Figure 1 is one-half the area of Figure 2.
    C. The area of Figure 1 is one-third the area of Figure 2.
    D. The area of Figure 1 is one-fourth the area of Figure 2.

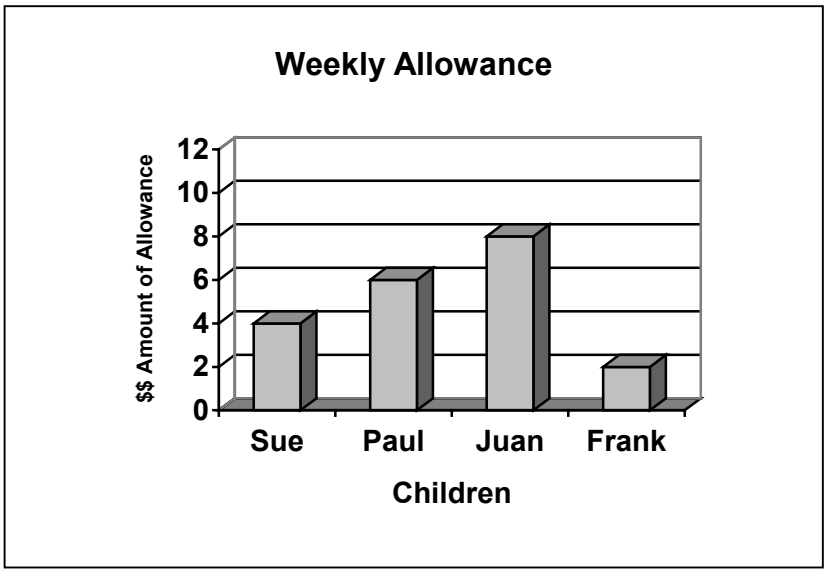
61. Based on the chart below, which pot demonstrated the highest daily growth, given the plant's age during the observation period?
    A. the blue pot
    B. the orange pot
    C. the yellow pot
    D. the green pot

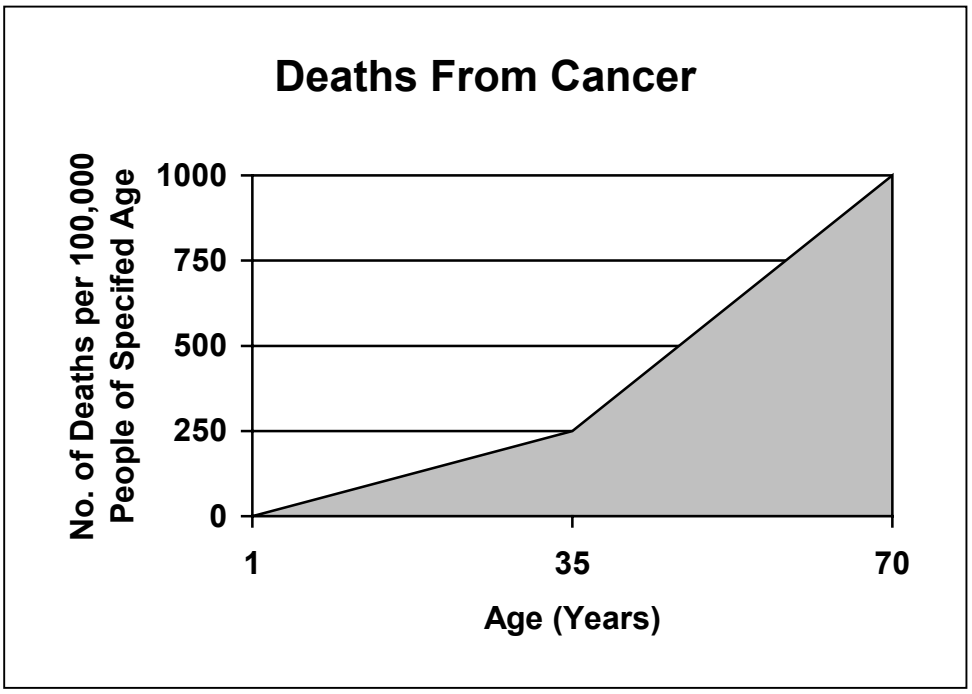
POT COLOR	DAY PLANTED	TOTAL GROWTH BY MAY 10
Green Pot	May 1	3 cm
Orange Pot	May 1	4 cm
Blue Pot	May 2	2 cm
Yellow Pot	May 4	4 cm



62. Micah receives a weekly allowance of $25. How much money does Micah save each week?
    A. $1.75
    B. $17.50
    C. $2.50
    D. none of the above

63. Look at the bar graph below. If you listed allowances from least to greatest, which child would be listed third?
    A. Frank
    B. Juan
    C. Paul
    D. Sue

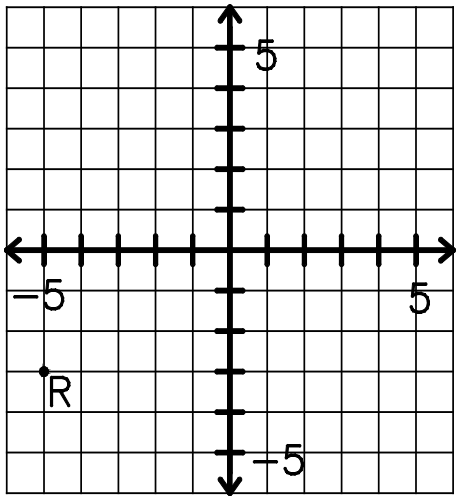




64. Look at the graph above. Which hypothesis is best represented by the graph?
    A. Smoking causes cancer.
    B. One person out of a thousand people will get cancer during his/her lifetime.
    C. Young people cannot get cancer.
    D. The probability of getting cancer increases with age.

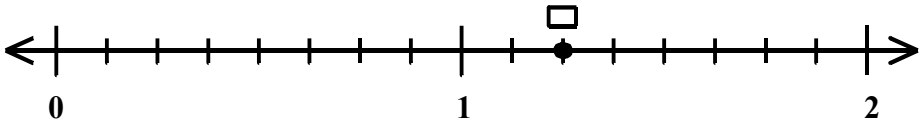
65. Which statement is ALWAYS true?
    A. Parallel lines never intersect.
    B. Rectangles are squares.
    C. Perpendicular lines do not make a right angle when they intersect.
    D. Squares have three sets of parallel lines.

66. Which letter of the alphabet does NOT have a line of symmetry?
    A. the letter A
    B. the letter M
    C. the letter G
    D. the letter H



67. Which ordered pair represents **Point R**?

A. (-5, -3)
B. (5, 3)
C. (3, 5)
D. (-3, -5)



68. Which value should go in the box above?

A. $1\frac{1}{2}$

B. $\frac{1}{4}$

C. $1\frac{1}{8}$

D. $1\frac{1}{4}$

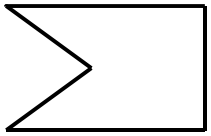
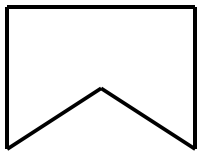


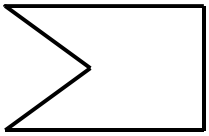
Figure 1

69. Which figure is congruent to **Figure 1**?

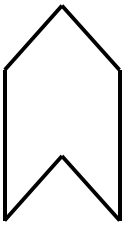
A.



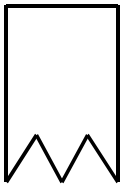
B.



C.



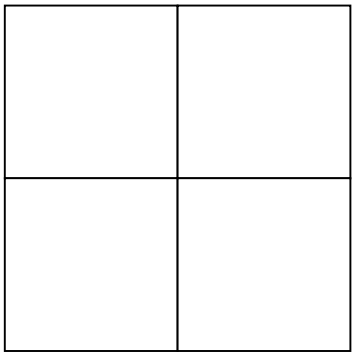
D

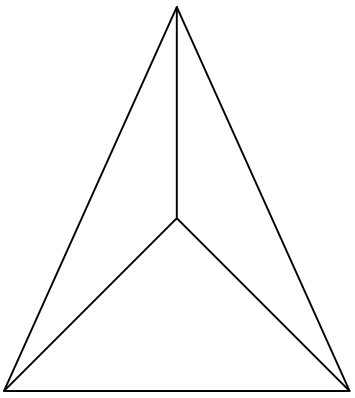


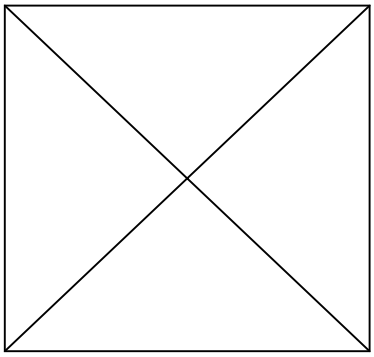
70. The student in the picture below is building a pyramid out of blocks. When he places the last piece on the top of the structure, how many sides will the pyramid have, including the base?

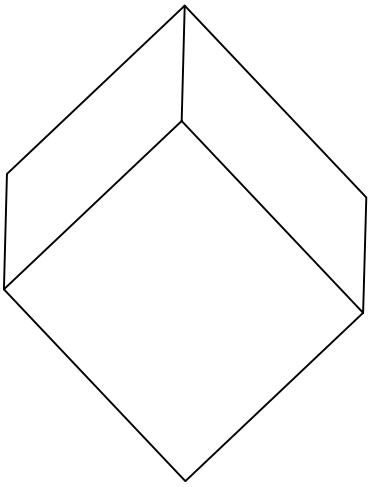
A. 3 sides
B. 4 sides
C. 5 sides
D. 8 sides

71. Look at each figure below. Decide which is a TOP view of the pyramid pictured above.

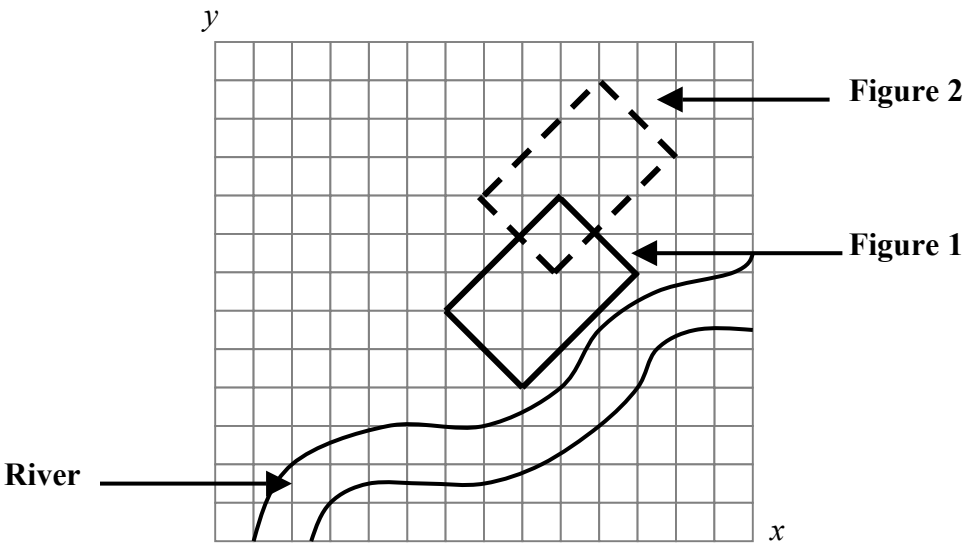
A. 

B. 

C. 

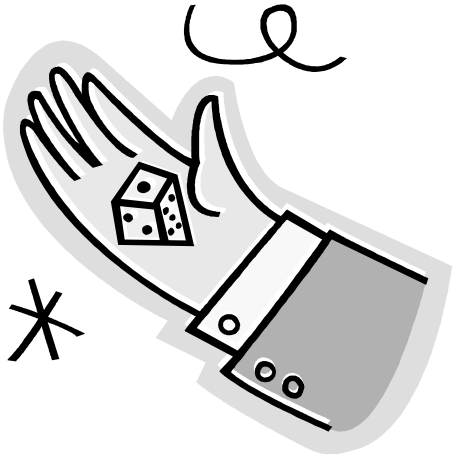
D. 

The Arts Center planned a rectangular space represented by Figure 1 for an outdoor garden. The location was too close to a river, so the garden spot was moved as shown by Figure 2.



72. What term best describes the transformation of **Figure 1** to **Figure 2**?
    A. translation
    B. rotation
    C. reflection
    D. dilation

73. If a six-sided die numbered one through six is rolled, what is the probability of rolling a three or a six?
    A. $\frac{1}{3}$
    B. $\frac{1}{6}$
    C. $\frac{1}{2}$
    D. 2



74. How many different ways can three people line up at a bus stop?
    A. 5 ways
    B. 2 ways
    C. 8 ways
    D. 6 ways

75. A pair of six-sided dice numbered one through six is rolled. What is the probability of rolling a sum of seven?
    A. $\frac{1}{36}$

    B. $\frac{3}{36}$

    C. $\frac{5}{36}$

    D. $\frac{1}{6}$

76. After taking two tests, Jessica has an average test score of 90. If she can raise her average to 95, her mother will give her $20. What does Jessica need to score on her next test in order to bring up her average to 95?
    A. 95
    B. 100
    C. 98
    D. Jessica cannot bring her average up to 95 with only one additional test unless she gets extra credit.

77. Find x: $\mathbf{3 + x = 3}$

    A. –3

    B. 0

    C. 1

    D. $\frac{1}{3}$

78. Evaluate $\frac{\mathbf{5x}}{\mathbf{2x + 7}}$ if x = 4.

A. .5
B. 1.3
C. 1.6
D. 1.75

79. Look at the function table below. Find the missing number.

A. 13
B. 11
C. 15
D. 17

x	***y***
1	3
2	8
3	?
4	18
5	23

80. Find the solution sentence to "***seventeen less than five times a number is negative three***."

A. 17 – 5x = -3
B. 5x + 17 = -3
C. 5x – 17 = -3
D. (5 + 17)x = -3