

Kansas City Area Teachers of Mathematics
2015 KCATM Contest

**GEOMETRY AND MEASUREMENT TEST
GRADE 4**

INSTRUCTIONS

- **Do not open this booklet** until instructed to do so.
- Time limit: **15 minutes**
- You **may use calculators** on this test.
- Use the π **key** on your calculator **or 3.14** as the approximation for pi.
- Mark your answer on the Scantron sheet by **FILLING in the circle**.
- You **may not use rulers, protractors, or other measurement devices** on this test.

Student Name _____ Student Number _____

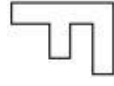
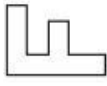


School _____

51. Which figure shows a hexagon?





- A.  B.  C.  D.  E. None of the above

52. Which figure shows the letter F rotated clockwise 90°?

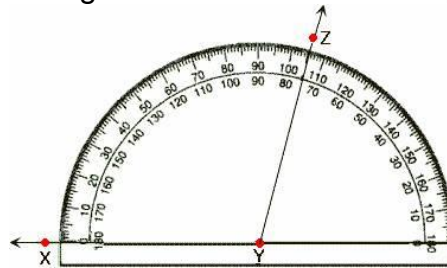


- A.  B.  C.  D.  E. None of the above

53. Which figure shows an acute angle?

- A.  B.  C.  D.  E. None of the above

54. What is the measure of the angle $\angle XYZ$ marked on the protractor?



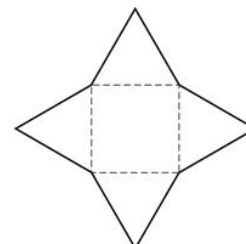
- A. 85° B. 105° C. 75° D. 115° E. None of the above

55. If the perimeter of a square is 36 inches, what is the length of sides?

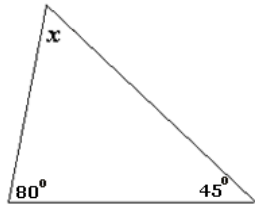
- A. 8 in. B. 6 in. C. 9 in. D. 18 in. E. None of the above

56. What 3-dimensional shape would this net fold up to be?

- A. cube B. pyramid
C. cone D. triangle
E. None of the above



57. What is the measure of the missing angle, x° in the triangle?

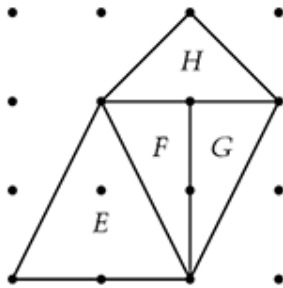


- A. 55° B. 45°
- C. 90° D. 65°
- E. None of the above

58. What is the name that describes all four-sided figures that have all sides equal?

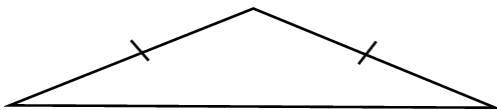
- A. quadrilaterals
- B. rhombi
- C. parallelograms
- D. trapezoids
- E. Not given

59. Which two figures are congruent?



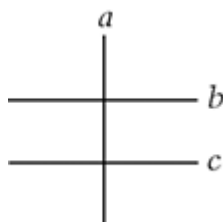
- A. E and F
- B. H and G
- C. F and G
- D. E and G
- E. None of the above

60. How could you classify this triangle?



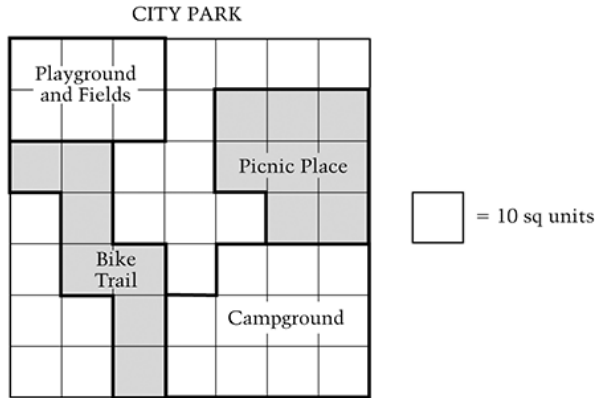
- A. Isosceles right triangle
- B. Scalene right triangle
- C. Obtuse isosceles triangle
- D. Acute scalene triangle
- E. None of the above

61. What type of lines are "a" and "b"?



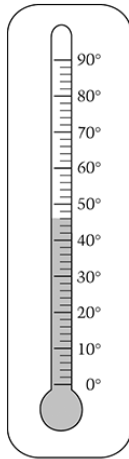
- A. parallel
- B. perpendicular
- C. vertical
- D. horizontal
- E. None of the above

62. Given the diagram below, how many square units are **NOT** taken up by the shaded regions?



- A. 150 sq. units
- B. 240 sq. units
- C. 340 sq. units
- D. 490 sq. units
- E. None of the above

63. What is the temperature on the thermometer?

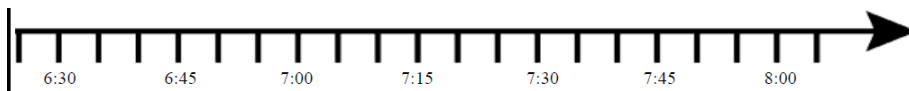


- A. 43°
- B. 46°
- C. 48°
- D. 45°
- E. None of the above

64. What is the area of a rectangle that has dimensions of 11 meters by 15 meters?

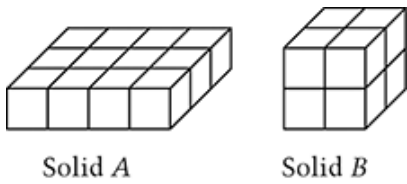
- A. 26 meters
- B. 165 sq. meters
- C. 52 sq. meters
- D. 52 meters
- D. None of the above

65. Use the open number line below to determine what time you need to get up if you have to leave for school at 7:45 and it takes you 65 minutes to eat breakfast and get ready.



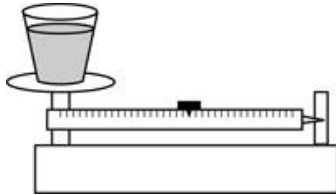
- A. 7:00 a.m.
- B. 6:45 a.m.
- C. 6:35 a.m.
- D. 6:40 a.m.
- E. Not given

66. How many more small cubes are in Solid A compared to Solid B?



- A. 0
- B. 2
- C. 3
- D. 4
- E. None of the above

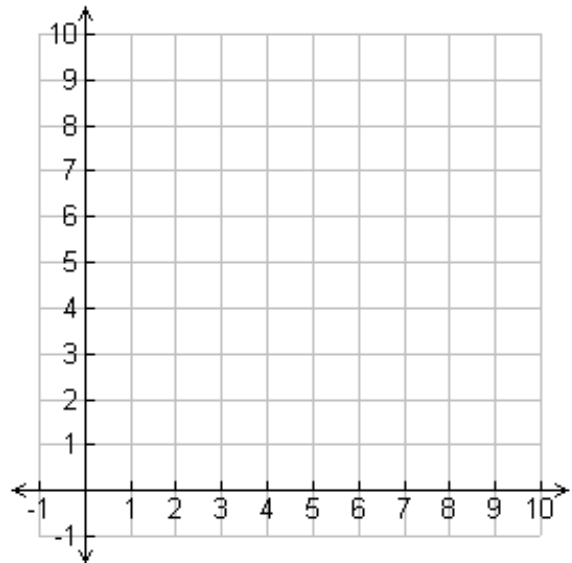
67. What is being measured in the figure below?



- A. Volume of the water
- B. Height of the water in the glass
- C. Weight of the water
- D. Temperature of the water
- E. None of the above

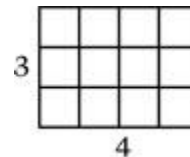
68. On the coordinate plane, draw a continuous line from the starting point to each coordinate. **Start at the origin** and move to (0, 3), (4, 5), (8, 3), (8, 0), then back to the origin. Which figure might be represented?

- A. Car
- B. House
- C. Bus
- D. Boat
- E. None of the above



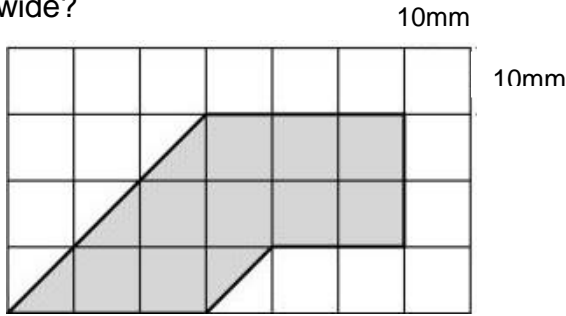
69. Which figure has the same perimeter as this rectangle?

- A.
- B.
- C.
- D.



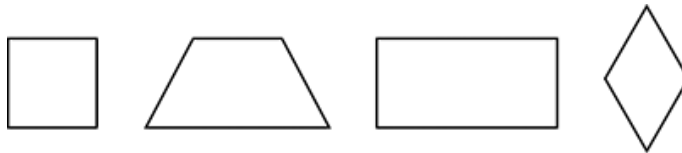
- E. None of the above

75. What is the area of the shaded region in square centimeters if each block is 10 mm wide?



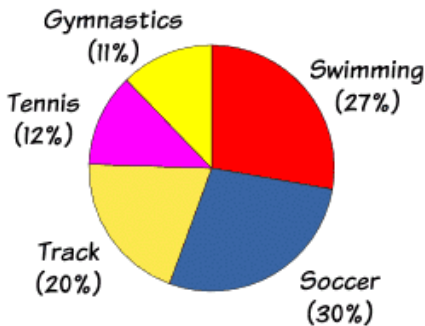
- A. 2800 sq. cm
- B. 280 sq. cm
- C. 1100 sq. cm
- D. 110 sq. cm
- E. None of the above

76. Which statement is true about all 4 figures below?



- A. Each shape is a rectangle.
- B. Each shape is a quadrilateral.
- C. Each shape has two pair of parallel sides.
- D. Each shape has one or more right angles.
- E. None of the above

Use the figure below for #77-78.



77. If 1,000 students were surveyed, how many would participate in track and swimming?
- A. 270
 - B. 200
 - C. 70
 - D. 470
 - E. None of the above
78. What is the degree of the angle that represents track?
- A. 72°
 - B. 45°
 - C. 60°
 - D. 90°
 - E. None of the above

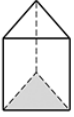
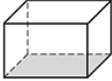
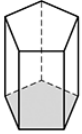
79. If you are 4 feet 10 inches tall, how many inches tall are you?

- A. 50 inches
- B. 58 inches
- C. 48 inches
- D. 60 inches
- E. None of the above

80. How many 8 ounce glasses can you pour from 2 gallons of lemonade?

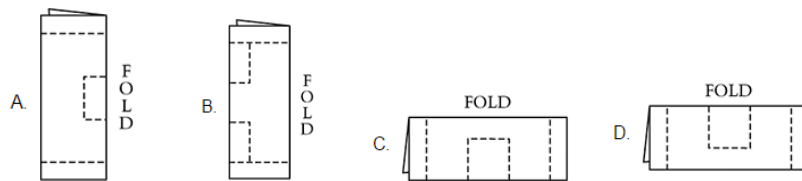
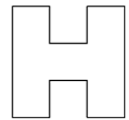
- A. 8
- B. 16
- C. 32
- D. 48
- E. None of the above

81. The following chart shows the number of **EDGES** for the figures. Using this table, determine the number of edges that a 7-sided base would have.

Shape	Number of Edges
 Triangular Prism	9
 Rectangular Prism	12
 Pentagonal Prism	15

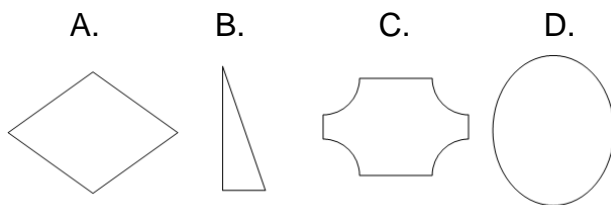
- A. 18
- B. 20
- C. 21
- D. 22
- E. None of the above

82. Which figure below could be cut on the dotted lines and unfolded to form an



- E. None of the above

83. Which of these figures does **not** have both a vertical and horizontal axis of symmetry?



- E. None of the above

84. What is a reasonable temperature for wearing shorts and a t-shirt outside?

- A. 100° C
- B. 32° F
- C. 38° C
- D. 0° F
- E. None of the above

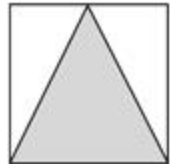
85. How many kilometers are in 6230 meters?

- A. 6.23
- B. 62.3
- C. 623
- D. 0.623
- E. None of the above

86. Umar wants to fill his aquarium with water. It holds 10 gallons, and he has a 2-quart pitcher. How many times does he have to fill his pitcher to fill the aquarium?

- A. 20 B. 8 C. 10 D. 2 E. None of the above

87. Given the area of the shaded triangle is 4 sq. units, what is the area of the square?

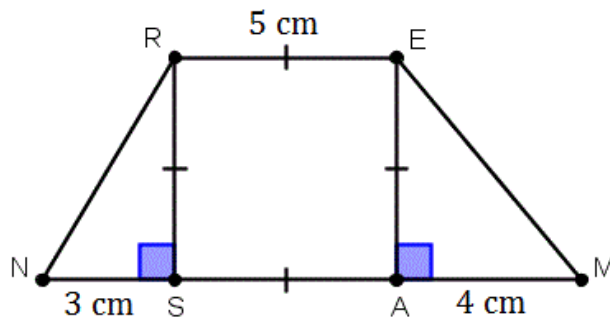


- A. 4 sq. units B. 5 sq. units
 C. 6 sq. units D. 8 sq. units
 E. None of the above

88. How many faces does a rectangular solid have?

- A. 4 B. 6 C. 8 D. 16 E. None of the above

89. What is the area of the trapezoid below?



- A. 12 sq. cm B. 25 sq. cm C. 60 sq. cm
 D. 42.5 sq. cm E. None of the above

90. Given each interior angle of a regular octagon (stop sign) is 135° , find the sum of the interior angles.



- A. 360° B. 1350° C. 800° D. 1080° E. None of the above

Shade the correct answer!

Example: A ● C D E

Name _____

School _____

- 51. A B C D E
- 52. A B C D E
- 53. A B C D E
- 54. A B C D E
- 55. A B C D E
- 56. A B C D E
- 57. A B C D E
- 58. A B C D E
- 59. A B C D E
- 60. A B C D E
- 61. A B C D E
- 62. A B C D E
- 63. A B C D E
- 64. A B C D E
- 65. A B C D E
- 66. A B C D E
- 67. A B C D E
- 68. A B C D E
- 69. A B C D E
- 70. A B C D E

- 71. A B C D E
- 72. A B C D E
- 73. A B C D E
- 74. A B C D E
- 75. A B C D E
- 76. A B C D E
- 77. A B C D E
- 78. A B C D E
- 79. A B C D E
- 80. A B C D E
- 81. A B C D E
- 82. A B C D E
- 83. A B C D E
- 84. A B C D E
- 85. A B C D E
- 86. A B C D E
- 87. A B C D E
- 88. A B C D E
- 89. A B C D E
- 90. A B C D E

Shade the correct answer!

Example: A ● C D E

Name _____

School _____

ANSWER KEY – 3.7.15 JH

- 51. ● B C D E
- 52. ● B C D E
- 53. A B C ● E
- 54. A ● C D E
- 55. A B ● D E
- 56. A ● C D E
- 57. ● B C D E
- 58. A ● C D E
- 59. A B ● D E
- 60. A B ● D E
- 61. A ● C D E
- 62. A B ● D E
- 63. A ● C D E
- 64. A ● C D E
- 65. A B C ● E
- 66. A B C ● E
- 67. A B ● D E
- 68. A ● C D E
- 69. ● B C D E
- 70. A B C ● E

- 71. A ● C D E
- 72. A ● C D E
- 73. ● B C D E
- 74. A B ● D E
- 75. A B ● D E
- 76. A ● C D E
- 77. A B C ● E
- 78. ● B C D E
- 79. A ● C D E
- 80. A B ● D E
- 81. A B ● D E
- 82. A B ● D E
- 83. A ● C D E
- 84. A B ● D E
- 85. ● B C D E
- 86. ● B C D E
- 87. A B C ● E
- 88. A ● C D E
- 89. A B C ● E
- 90. A B C ● E