Shapes and Symmetry

Multiple Choice
Identify the choice that best completes the statement or answers the question.

1. The hats at Alex’s birthday party had the shape shown below. Which solid best describes the hat?
   a. sphere  
   b. cylinder  
   c. cone  
   d. cube

2. What is the solid figure name for the shape of a can of vegetables?
   a. pyramind  
   b. sphere  
   c. cone  
   d. cylinder

3. What is the solid figure name for the shape of this ancient Egyptian tomb?
   a. sphere  
   b. cylinder  
   c. pyramid  
   d. rectangular prism

4. Name the solid figures you would get if you cut the solid figure as shown.
5. Peter painted each face of the figure below a different color. How many colors did Peter use?

- a. 8
- b. 7
- c. 6
- d. 5

6. Which figure has 2 faces and no vertices?

- a. 
- b. 
- c. 
- d. 

7. Which figure has no flat surfaces?

- a. 
- b. 
- c. 
- d. 

8. What name best describes the intersection of two streets?
9. What name best describes the pencil?

a. line segment  
   b. perpendicular lines  
   c. point  
   d. ray

10. What is the name for the figure below?

a. acute angle  
   b. obtuse angle  
   c. perpendicular lines  
   d. right angle

11. Which of these clock's hands show an obtuse angle?

a. Clock A  
   b. Clock B  
   c. Clock C  
   d. None
12. Which figure is a polygon?
   a. 
   b. 
   c. 
   d. 

13. Yasmine cut out different colored polygons to create a quilt. Which of the following shapes is a quadrilateral?
   a. 
   b. 
   c. 
   d. 

14. Which figure is an isosceles triangle?
   a. 
   b. 
   c. 
   d. 

15. Which figure is an obtuse triangle?
16. Which figure is a rhombus?
   a. 
   b. 
   c. 
   d. 

17. Moira put 4 shapes together on her desk. She put them in this order, from top to bottom:
   - trapezoid
   - square
   - rectangle
   - parallelogram
   Which diagram shows the order of Moira’s shapes?
   a. 
   b. 
   c. 
   d. 

18. Which figure is a parallelogram?
   a. 
   b. 
   c. 
   d. 

19. Which best describes the triangles?
20. Which best describes the polygons?

a. They are all squares.

b. They are all triangles.

c. They are all trapezoids.

d. They are all quadrilaterals.

21. Marvin practiced kicking a soccer ball after school. Which solid best describes the soccer ball?

a. cone

b. cube

c. cylinder

d. sphere

22. Vivian bought a candle that had the shape of the figure below. Which solid best describes the candle?

a. They are all equilateral triangles.

b. They are all isosceles triangles.

c. They are all scalene triangles.

d. They are all obtuse triangles.
23. Name the solid figures you would get if you cut the solid figure as shown.

![Image of a solid figure]

- a. 2 cylinders
- b. 2 rectangular prisms
- c. a cylinder and a rectangular prism
- d. a sphere and a pyramid

24. Which figure has 5 faces and 5 corners?

- a. cylinder
- b. cone
- c. cube
- d. pyramid

25. Zachary painted each face of the figure below a different color. How many colors did Zachary use?

![Image of a figure]

- a. 9
- b. 8
- c. 7
- d. 6

26. Owen traced the bottom of this solid figure. What shape did he draw?

![Image of a solid figure]

- a. circle
- b. triangle
- c. square
- d. rectangle

27. Which name best describes the lines created by the sides of a train track?
28. What is the name for the figure below?

a. acute angle  

b. obtuse angle  

c. parallel lines  

d. point

29. Which of these clock’s hands show a right angle?

a. Clock A  

b. Clock B  

c. Clock C  

d. None

30. What is the name for the figure below?

a. obtuse angle  

b. right angle  

c. perpendicular lines  

d. acute angle

31. Sylvester found buttons in the shapes of these polygons for a project. Which polygon is a triangle?
32. Which figure is a polygon?
- a.
- b.
- c.
- d.

33. Which figure is an acute triangle?
- a.
- b.
- c.
- d.

34. Coach Brown marked off the following trail for students to practice running. What kind of triangle did she make?
- a. equilateral triangle
- b. obtuse triangle
- c. right triangle
- d. scalene triangle
35. Which figure is a parallelogram?
   a.  
   b.  
   c.  
   d.  

36. Serena put 4 shapes together on her desk. She put them in this order, from top to bottom:
   parallelogram
   square
   rectangle
   trapezoid

Which diagram shows the order of Serena's shapes?
   a.  
   b.  
   c.  
   d.  

37. Which figure is a trapezoid?
   a.  
   b.  
   c.  
   d.  

38. Which best describes the quadrilaterals?
   a.  They are all parallelograms.
   b.  They are all rectangles.
   c.  They are all trapezoids.
   d.  They are all squares.
39. Which best describes the triangles?

- They are all isosceles triangles.
- They are all right triangles.
- They are all scalene triangles.
- They are all equilateral triangles.

40. Which best describes the quadrilaterals?

- They are all rectangles.
- They are all squares.
- They are all rhombuses.
- They are all trapezoids.

41. Which of the following are congruent?

42. The following is an example of ____.

- rotation
- translation
- reflection
- none of the above
43. The following is an example of ____.

![Image of star shapes](image1)

a. rotation  
   b. translation  
   c. reflection  
   d. none of the above

44. The following is an example of ____.

![Image of pentagon shapes](image2)

a. translation  
   b. reflection  
   c. rotation  
   d. none of the above

45. The following is an example of ____.

![Image of butterfly shapes](image3)

a. translation  
   b. reflection  
   c. rotation  
   d. none of the above

46. Which of the following lines is NOT a line of symmetry?
47. Which of the following has a line of symmetry?
   a. 
   b. 
   c. 
   d. 

48. Which of the following does NOT have a line of symmetry?
   a. 
   b. 
   c. 
   d. 
49. The following are symbols seen on signs. Which of the following has exactly 2 lines of symmetry?
   a. 
   b. 
   c. 
   d. 

50. Which of the following letters has a line of symmetry?
   a. F
   b. G
   c. J
   d. B

51. Nestor is tiling his floor. He wants to have a tile design in the middle of the floor. He is using 1-inch color tiles to plan the design. This is the left half of his design with a line that will be the line of symmetry in the design.

Which completes the right half of his design?
Devon is designing a garden. The garden design will have square plots. Each plot will have a different kind of plant. He uses 1-inch tiles to plan the left half of the design. Then he draws a line.

Which completes the right half of his design if the line is a line of symmetry?

a. 

b. 

c. 

d. 

Which completes the right half of his design if the line is a line of symmetry?
53. Ashley is designing a class logo for a bulletin board display. She drew half the design on dot paper. Then she drew a line.

Which completes the right half of her design if the line is the line of symmetry?

a. 

b. 

c. 

54. Mitch made a figure using tangram pieces and copied the figure onto paper. Then he drew a line along one side of the shape.

If the line is a line of symmetry, which shape would complete Leroy’s figure?

a. ![Shape A]

b. ![Shape B]

c. ![Shape C]

d. ![Shape D]

55. Percy told Herman that the picture he drew was symmetrical. Which picture did Percy draw?
56. These are examples of three small triangles from tangram sets.

Which type of quadrilateral can you make if you join the 3 triangles so that they share at least one complete side with another triangle?

a. parallelogram  
b. rhombus  
c. square  
d. trapezoid

57. These are two small triangles from a tangram set.

Which figure can NOT be made with these pieces?

a. rhombus  
b. square  
c. trapezoid  
d. triangle
58. This is a small triangle and a square from a tangram set.

Which figure can be made with these pieces?
   a. triangle
   b. trapezoid
   c. pentagon
   d. parallelogram

59. These 4 small triangles are from tangram sets.

Which figure can NOT be made with these four pieces?
   a. triangle
   b. trapezoid
   c. rectangle
   d. polygon

60. Which type of quadrilateral can be made by joining these tangram pieces so that the two pieces share one complete side?

   a. rectangle
   b. rhombus
   c. square
   d. trapezoid

61. Which of the following are congruent?
   a.  
   b.  
   c.  
   d.  
62. The following is an example of ____.

63. The following is an example of ____.

64. The following is an example of ____.

65. The following is an example of ____.
66. Which of the following lines is a line of symmetry?
   a. 
   b. 
   c. 
   d. 

67. Which of the following does NOT have a line of symmetry?
   a. 
   b. 
   c. 
   d. 

68. Which of the following does NOT have a line of symmetry?
69. Which of the following letters do NOT have a line of symmetry?
   a. Q  c. C
   b. E  d. A

70. Which of the following has a line of symmetry?
   a.  c.
   b.  d.

71. Serena is retiling her bathroom wall. She would like to make a tile design on the wall. She uses 1-inch color tiles to plan the top half of the design. Then she draws a line.
Which completes the top half of her design if the line is a line of symmetry?

- a.
- b.
- c.
- d.

72. Bonnie drew the left half of a floor plan of her bedroom on dot paper.

Which completes the right half of the floor plan if the line is a line of symmetry?

- a.
73. Lynette used rubber bands to make a figure on a geoboard. She recorded the figure on dot paper. Then she decided to expand the figure. She drew a line along the bottom of the dot paper figure.

Which completes Lynette’s design if the line she drew is a line of symmetry?
a.
74. Gabrielle told Bree that the picture she drew was NOT symmetrical. Which picture did Gabrielle draw?

a. [Image of a symmetrical dog]

b. [Image of an asymmetrical dog]

c. [Image of a symmetrical clown]

d. [Image of an asymmetrical house]

75. Fred made a figure using tangram pieces and copied the figure onto paper. Then he drew a line along one side of the figure.
If the line is a line of symmetry, which shape would complete Fred’s figure?

a. 

b. 

c. 

d. 

76. Which type of quadrilateral can be made by joining these tangram pieces so that the two pieces share one complete side?

a. rectangle
b. rhombus
c. square
d. trapezoid

77. A student used the two triangle tangram shapes to make a square.

How many lines of symmetry does the square have?
78. These are 2 small triangles and the parallelogram from a tangram set.

Which figure can NOT be made with these three pieces?

a. parallelogram
b. rectangle
c. square
d. triangle

79. These are 2 small triangles and the square from a tangram set.

Which figure can NOT be made with these three pieces?

a. triangle
b. trapezoid
c. parallelogram
d. square

80. Which type of quadrilateral can NOT be made by joining these tangram pieces?

a. rectangle
b. rhombus
c. square
d. trapezoid

Other
81. THINK  
SOLVE  
EXPLAIN  
Andys schedule is shown below. 
Draw hands on the clocks to show the times. 

\[
\begin{array}{ccc}
\text{Wake Up} & \text{Piano Lesson} & \text{Eat Dinner} \\
8:00 \text{ A.M.} & 3:00 \text{ P.M.} & 5:00 \text{ P.M.} \\
\end{array}
\]

Then circle the clock that shows a right angle. 

82. THINK  
SOLVE  
EXPLAIN  
Tell the time on each clock. Then tell which type of angle is formed by each clock's hands. Write \textit{acute} if the angle is less than a right angle, and \textit{obtuse} if the angle is greater than a right angle. 

\[
\begin{array}{ccc}
\text{Time: } & \text{Time: } & \text{Time: } \\
\text{Angle: } & \text{Angle: } & \text{Angle: } \\
\end{array}
\]

83. THINK  
SOLVE  
EXPLAIN  
Liz sorted some figures into two groups.
Describe a rule she used to sort the figures.

84. **THINK**
**SOLVE**
**EXPLAIN**
Joe wants to draw parallel lines on the grid below.

```
. . . . . . .
. . . . . . .
. . . . . . .
. . . . . . .
. . . . . . .
. . . . . . .
. . . . . . .
```

Is he right? Explain your answer.

85. **THINK**
**SOLVE**
**EXPLAIN**
Repeat the shape 3 more times to extend the pattern.
Lidia cut a square to make two triangles.

Which of the shapes below can Lidia make with the two triangles? Circle the answers.
87. **THINK**
**SOLVE**
**EXPLAIN**
Complete the figure over the symmetry line.

![Figure](image)

Name the polygon. __________

88. **THINK**
**SOLVE**
**EXPLAIN**
Draw three rectangles on the dot paper below. Make two of the rectangles congruent. Then circle the two rectangles that are congruent.

![Dot paper](image)

Explain why the two rectangles you circled are congruent.

89. **THINK**
**SOLVE**
**EXPLAIN**
On the grid below, slide the figure. On the grid below, turn
90. THINK
SOLVE
EXPLAIN

Look at the figures below.

Figure A is the original figure. Use the words “slide,” “flip,” and “turn” to describe how Figures B, C, and D are related to Figure A.