# Level D - Form 1 - Applied Mathematics: Geometry and Spatial Sense

## Sample Question
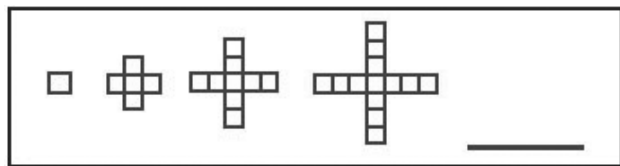
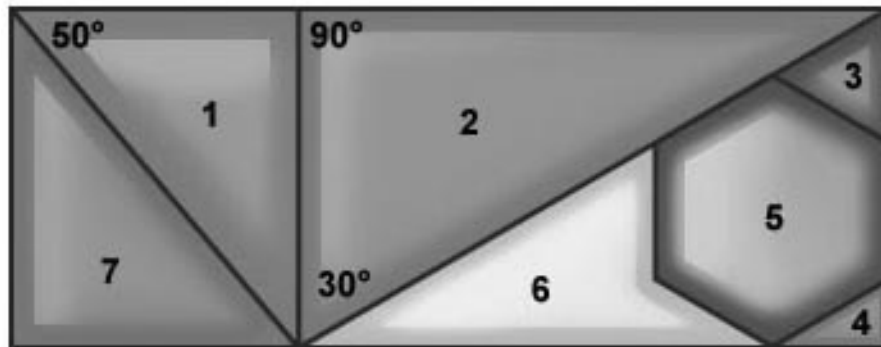Which figure is a triangle?

A ▪

B ●

C ▲

D ▰

# Level D - Form 1 - Applied Mathematics: Geometry and Spatial Sense

1. If the pattern formed by the blocks continues, how many blocks should be added to the fourth shape to make the next shape?



   A 1

   B 4

   C 13

   D 17

**The diagram shows plans for a stained-glass window. Study the diagram. Then do Numbers 2 through 3.**
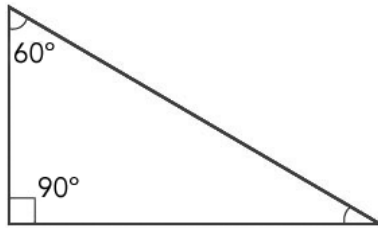


2. What kind of shape is piece 6?

   F hexagon

   G pentagon

   H quadrilateral

   J triangle

3. Piece 2 has a right angle. What kind of geometric figure is it?
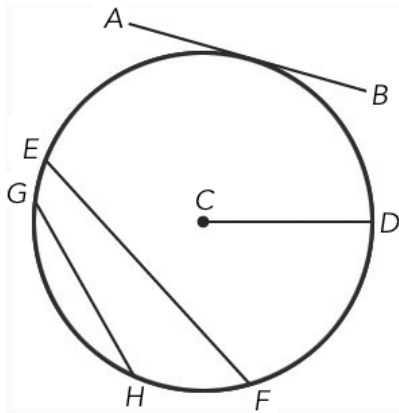
   A right triangle

   B acute triangle

   C obtuse triangle

   D isosceles triangle
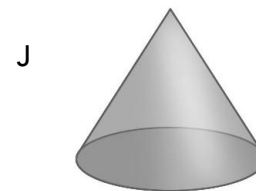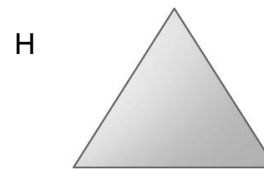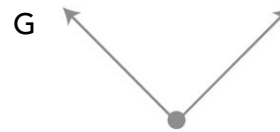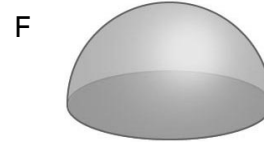
**4.** What is the measure of the third angle?



60°

90°

F  30°

G  45°

H  60°
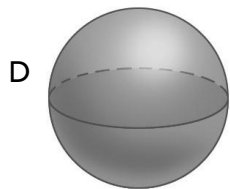
J  75°

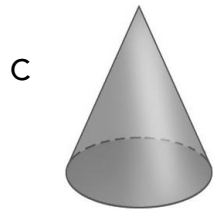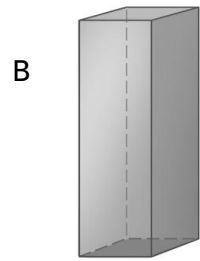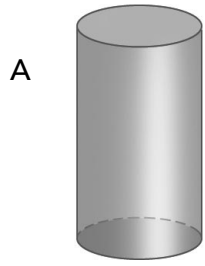**5.** Which line segments are chords?



A  $\overline{AB}$ and $\overline{CD}$

B  $\overline{AB}$ and $\overline{GH}$

C  $\overline{EF}$ and $\overline{CD}$

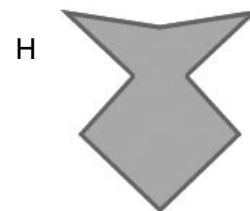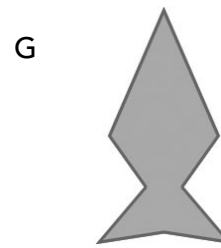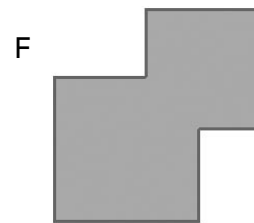D  $\overline{EF}$ and $\overline{GH}$

**6.** Which figure is a cone?

F



G



H



J

7. Which figure is rectangular solid?
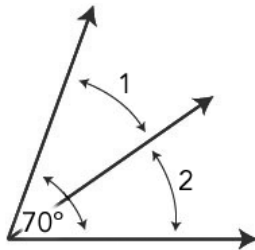
A

B

C

D

8. Which piece can complete the square?

F

G

H

J

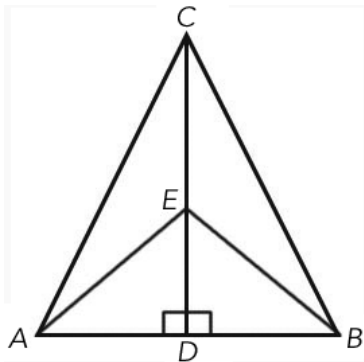9. The diameter of a circle is 44 millimeters. What is its radius?

    A 11 millimeters

    B 22 millimeters

    C 44 millimeters

    D 88 millimeters

10. The ray shown divides the large angle in half. What is the measure of angle 1?



    F 30°

    G 35°

    H 40°

    J 70°

11. What kind of triangle is the triangle with vertices A, C, and E?



    A acute

    B right

    C obtuse

    D isosceles

12. This is a pattern for window glass that needs to be cut. What is the correct description of the angles of this window?
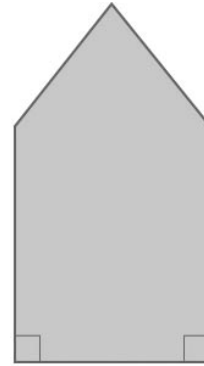


    F 1 right angle, 2 obtuse angles, 2 acute angles

    G 2 right angles, 2 obtuse angles, 1 acute angle

    H 3 right angles, 1 obtuse angle, 1 acute angle

    J 5 right angles

**13.** Which of these figures can be folded to form a square pyramid?

A

B

C

D
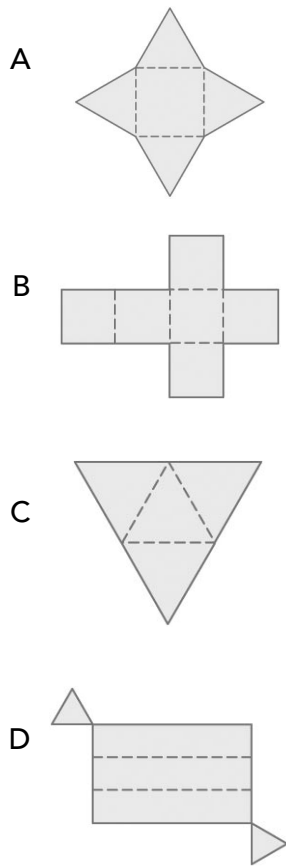
**14.** How many diagonals can be drawn to divide the square in half?

F 1
G 2
H 3
J 4

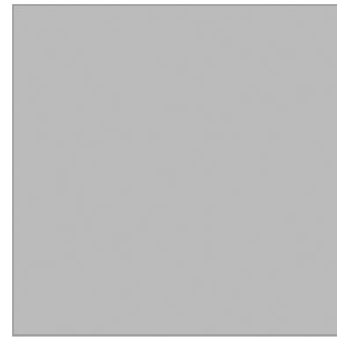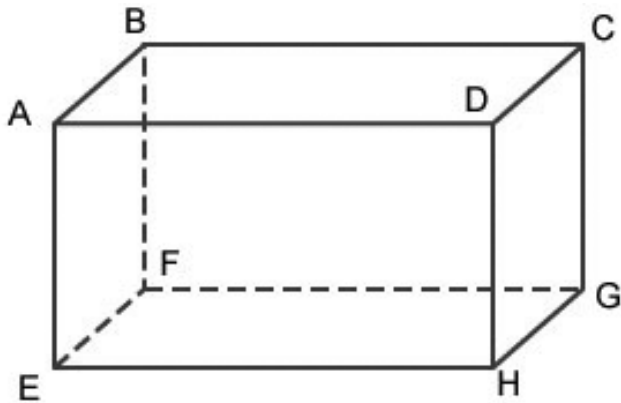**Study the figure below. Then do Numbers 15 through 17.**



15. Which line segments in this figure are perpendicular?
    A $\overline{AB}$ and $\overline{CD}$
    B $\overline{BF}$ and $\overline{GH}$
    C $\overline{EH}$ and $\overline{CD}$
    D $\overline{DH}$ and $\overline{HE}$

16. Which line segments in this figure are parallel?
    F $\overline{BF}$ and $\overline{EH}$
    G $\overline{AB}$ and $\overline{GF}$
    H $\overline{DC}$ and $\overline{HG}$
    J $\overline{FG}$ and $\overline{AE}$

17. How many edges does the figure have?
    A 6
    B 8
    C 10
    D 12

18. Where do two perpendicular lines intersect?
    F point
    G ray
    H line
    J plane

**Study the coordinate graph below. Then do Numbers 19 through 20.**
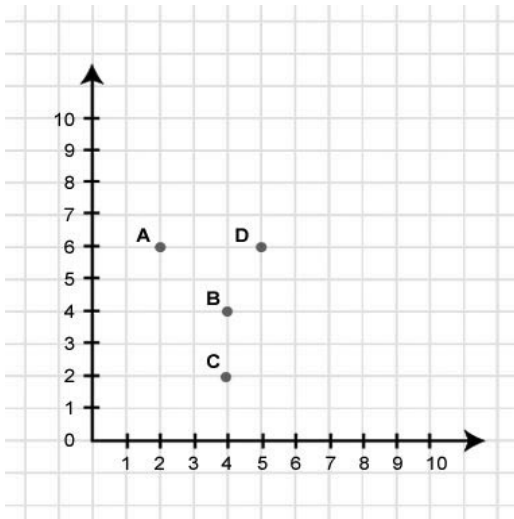


19. What are the coordinates of point *A*?

    A (6, 2)

    B (6, 6)

    C (2, 6)

    D (2, 2)

20. Which ordered pair gives the location of point *B*?

    F (2, 6)

    G (4, 4)

    H (4, 2)

    J (5, 6)