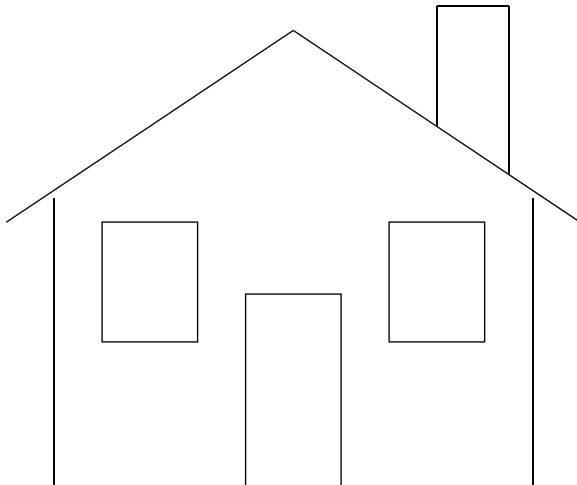1. Kevin drew a diagonal inside a quadrilateral and made 2 equilateral triangles. What kind of quadrilateral did Kevin use to draw the triangles?
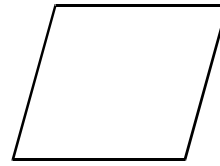
    A   pentagon

    B   rectangle

    C   rhombus

    D   trapezoid

2. This picture is made ***mostly*** of which of the following?
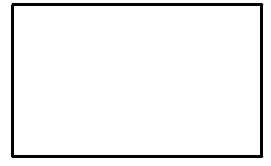

    A   acute angles and intersecting line segments

    B   obtuse angles and diagonal line segments

    C   right angles and straight line segments

    D   right angles and circles

3. Which statement correctly compares this parallelogram and this rectangle?

    Parallelogram   Rectangle

    A   Both figures are polygons with four right angles.

    B   Both figures are polygons with pairs of parallel opposite sides.

    C   Both figures are polygons whose interior angles total 180 degrees.

    D   Both figures are polygons with at least two acute angles.

4. Which of the following is a plane figure with 6 sides, 6 obtuse angles, and 6 vertices?

    A

    B

    C

    D
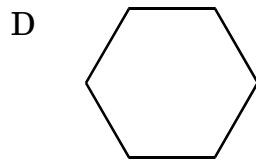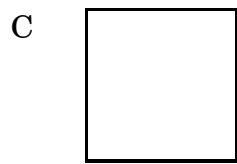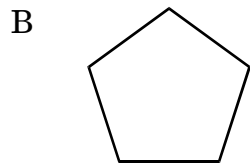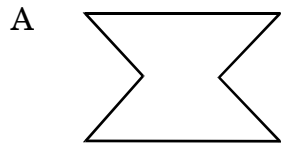
5. A triangle has two 45° interior angles. Which term correctly describes the triangle?

    A   regular

    B   scalene

    C   equilateral

    D   isosceles

6. Which of the following can never have rotational symmetry?

    A   scalene triangle

    B   pentagon

    C   rectangle

    D   regular octagon

7. Which figure below has both line symmetry and rotational symmetry?

    A

    B

    C

    D
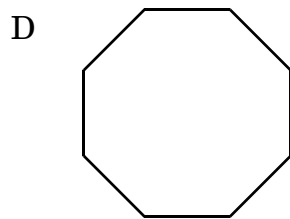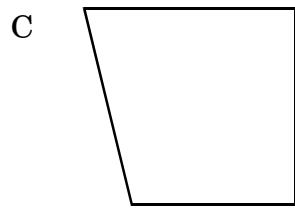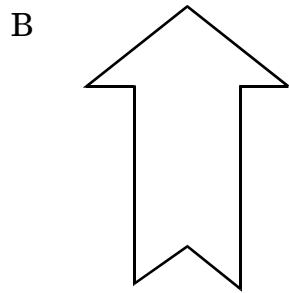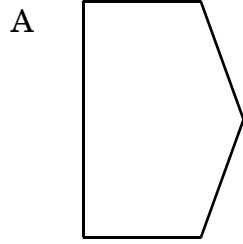
8. What is the measure of $\angle M$ in triangle *LMN*?

    M

    100°   25°

    L   *N*
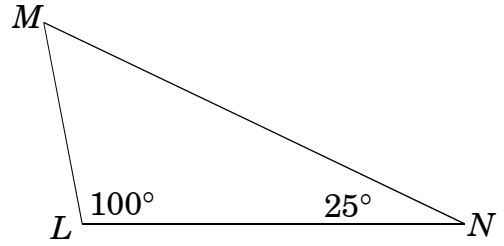
    A   55°

    B   80°

    C   125°

    D   180°

9. What is the sum of the measures of $\angle E$ and $\angle G$ in the parallelogram shown below?

    F   *G*

    70°

    E   *H*
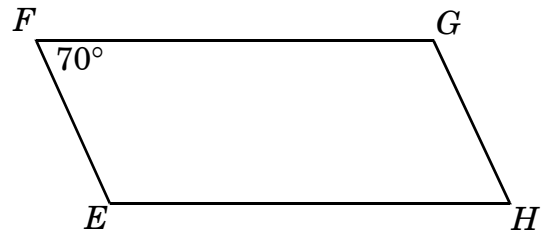
    A   110°

    B   140°

    C   220°

    D   290°

10.   In the triangle below, $\angle X$ and $\angle Y$ are congruent.
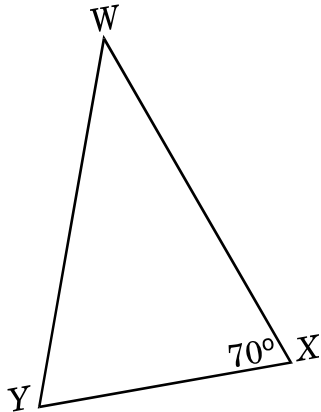
What is the measure of $\angle W$?

A   40°

B   50°

C   70°

D   110°

11. $\triangle DEF$ is isosceles. Its perimeter is 52 cm. The length of a side of $\triangle DEF$ is 18 cm. Which is the smallest possible length of another side of $\triangle DEF$?

A   15 cm

B   16 cm

C   17 cm

D   18 cm

12.   Which of these polygons must have diagonals that are perpendicular?

A   rectangle

B   parallelogram

C   trapezoid

D   rhombus

13.   Which quadrilateral has exactly one pair of parallel sides?

A   parallelogram

B   rhombus

C   trapezoid

D   rectangle

End of Goal 3 Sample Items

Math Goal 3
Sample Items Key Report

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1   **Objective:**   **3.01**
Identify, define, describe, and accurately represent triangles, quadrilaterals, and other polygons.
Thinking Skill: Analyzing   **Correct Answer:**   C

2   **Objective:**   **3.01**
Identify, define, describe, and accurately represent triangles, quadrilaterals, and other polygons.
Thinking Skill: Organizing   **Correct Answer:**   C

3   **Objective:**   **3.01**
Identify, define, describe, and accurately represent triangles, quadrilaterals, and other polygons.
Thinking Skill: Applying   **Correct Answer:**   B

4   **Objective:**   **3.01**
Identify, define, describe, and accurately represent triangles, quadrilaterals, and other polygons.
Thinking Skill: Knowledge   **Correct Answer:**   D

5   **Objective:**   **3.01**
Identify, define, describe, and accurately represent triangles, quadrilaterals, and other polygons.
Thinking Skill: Applying   **Correct Answer:**   D

6   **Objective:**   **3.03**
Classify plane figures according to types of symmetry (line, rotational).
Thinking Skill: Analyzing   **Correct Answer:**   A

7   **Objective:**   **3.03**
Classify plane figures according to types of symmetry (line, rotational).
Thinking Skill: Applying   **Correct Answer:**   D

8   **Objective:**   **3.04**
Solve problems involving the properties of triangles, quadrilaterals, and other polygons. a) Sum of the measures of interior angles. b) Lengths of sides and diagonals. c) Parallelism and perpendicularity of sides and diagonals.
Thinking Skill: Applying   **Correct Answer:**   A

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9 **Objective:** **3.04**
Solve problems involving the properties of triangles, quadrilaterals, and other polygons.
a) Sum of the measures of interior angles. b) Lengths of sides and diagonals. c)
Parallelism and perpendicularity of sides and diagonals.
Thinking Skill: Analyzing   **Correct Answer:**   C

10 **Objective:** **3.04**
Solve problems involving the properties of triangles, quadrilaterals, and other polygons.
a) Sum of the measures of interior angles. b) Lengths of sides and diagonals. c)
Parallelism and perpendicularity of sides and diagonals.
Thinking Skill: Applying   **Correct Answer:**   A

11 **Objective:** **3.04**
Solve problems involving the properties of triangles, quadrilaterals, and other polygons.
a) Sum of the measures of interior angles. b) Lengths of sides and diagonals. c)
Parallelism and perpendicularity of sides and diagonals.
Thinking Skill: Analyzing   **Correct Answer:**   B

12 **Objective:** **3.04**
Solve problems involving the properties of triangles, quadrilaterals, and other polygons.
a) Sum of the measures of interior angles. b) Lengths of sides and diagonals. c)
Parallelism and perpendicularity of sides and diagonals.
Thinking Skill: Organizing   **Correct Answer:**   D

13 **Objective:** **3.04**
Solve problems involving the properties of triangles, quadrilaterals, and other polygons.
a) Sum of the measures of interior angles. b) Lengths of sides and diagonals. c)
Parallelism and perpendicularity of sides and diagonals.
Thinking Skill: Organizing   **Correct Answer:**   C