Mathematics Grade 6  
Classroom Assessments Based on Standards  (MMP 8/06)

MPS Learning Targets: Geometry

- Identify and contrast properties of polygons and polyhedra (e.g., sides, angles, symmetry, faces) and draw or describe relationships (e.g., congruency, regularity, similarity, decomposition, transformations) of figures from multiple perspectives.
- Use specifications to plot, construct, and transform points and shapes using the coordinate plane.

1.) From a single vertex, make diagonals forming triangles within this polygon. (Triangulation)

![Hexagon with diagonals drawn](image)

2.) Which of the following could NOT be folded into a cube?

a. ![Cube diagram](image)  
b. ![Cube diagram](image)  
c. ![Cube diagram](image)  
d. ![Cube diagram](image)
3.) For each shape below, choose the correct description.

a.) [ ] ○ regular polygon ○ irregular polygon ○ not a polygon

b.) [ ] ○ regular polygon ○ irregular polygon ○ not a polygon

c.) [ ] ○ regular polygon ○ irregular polygon ○ not a polygon

d.) [ ] ○ regular polygon ○ irregular polygon ○ not a polygon

e.) [ ] ○ regular polygon ○ irregular polygon ○ not a polygon

4.) Choose one the shapes from question 3 and explain your answer by describing the shape’s characteristics.

<table>
<thead>
<tr>
<th>Shape:</th>
<th>○ regular polygon</th>
<th>○ irregular polygon</th>
<th>○ not a polygon</th>
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<tbody>
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<td>Explanation:</td>
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5.) For the figure to the right, determine and write the number of:

faces ___________________

vertices _________________

edges ___________________
6.) Which of the following can be folded to the form of a triangular prism.

A.)

B.)

C.)

D.)

E.)

7.) What is the value of ‘x’ in the triangle below?

A) 65°
B) 84°
C) 90°
D) 92°
E) 98°
8.) The figure above is shaded on the top side and white on the underside. If the figure were flipped over, its white side could look like which of the following figures.

A.)

B.)

C.)

D.)

9.) Which of the following lists the angles shown above in order of measure from smallest to largest?

A.) 1, 2, 3, 4
B.) 2, 3, 4, 1
C.) 1, 4, 3, 2
D.) 1, 3, 4, 2
E.) 4, 2, 1, 3
10b.) Which of the following is NOT necessarily true?

A.) Side $WX$ is parallel to side $ZY$.
B.) Side $XY$ is parallel to side $WZ$.
C.) The measures of the angles $W$ and $Y$ are equal.
D.) The lengths of sides $WX$ and $ZY$ are equal.
E.) The lengths of sides $WX$ and $XY$ are equal.

11.) Mark which of the following contains the named feature. Put an ‘X’ in the correct box.
12.) Draw a similar but not congruent figure to the one given.

13.) Construct a polygon of your choice which has a line of symmetry. Label the line of symmetry.