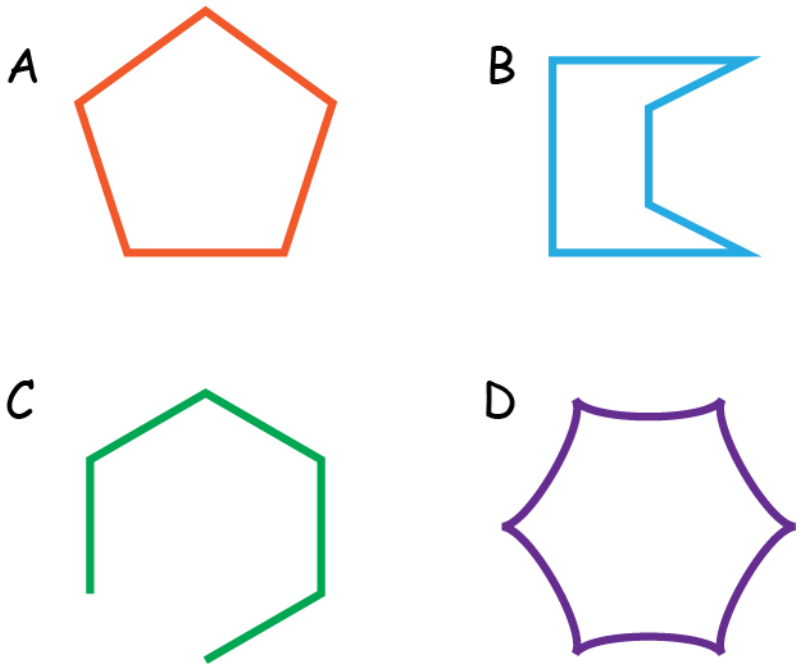
Grade 1: What Is a Hexagon?

1.G.A.1 – Distinguish between defining attributes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size); build and draw shapes to possess defining attributes.

One of these shapes is a hexagon. Which shape is it? Draw a ring around the correct letter.



Solution

Correct if student selects B.

Hexagon means a closed figure with 6 sides that are straight line segments. By counting the sides of shape B, you can tell that it is a hexagon. It is a closed figure with 6 sides that are straight line segments.

Shapes A, C, and D are not hexagons.

- Shape A is a not a hexagon because it's a pentagon.
- Shape C is not a hexagon because it's not a polygon; a polygon must be closed, but shape C is open (an ant could escape from it).
- Shape D is not a hexagon because it's not a polygon; a polygon must have sides that are straight line segments, but shape D has sides that are not straight-line segments.

If a student answered B, ask how they know shape B is a hexagon. If they aren't sure why, ask them to count the number of sides. When they find that there are 6 sides, that fact might remind them what a hexagon is. Students should also be able to give reasons why the other shapes are not hexagons.

Elaboration on Alignment

Distractor A is the only shape that "looks like" a prototypical regular *n*-gon. Students who only ever look at regular *n*-gons (without attending to their defining attributes) might be tempted to select shape A, and might be unwilling to select shape B. But shape B, and only shape B, fits the definition of a hexagon.

The problem is meant not only to assess the concept but also, for some students, to teach the concept. A student who was fed a diet of regular *n*-gons will reject C and (hopefully) D, then reject A, and be forced onto B as a last resort. But then the student may wonder: Why was that correct? Is shape B really a hexagon? The mystery is solved when we have recourse to the definition and apply it to the case at hand.

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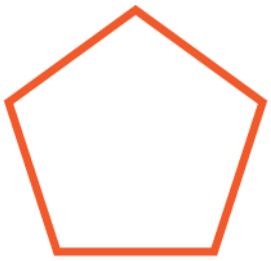
Name: _____

One of these shapes is a hexagon. Which shape is it? Draw a ring around the correct letter.

A 

B 

C 

D