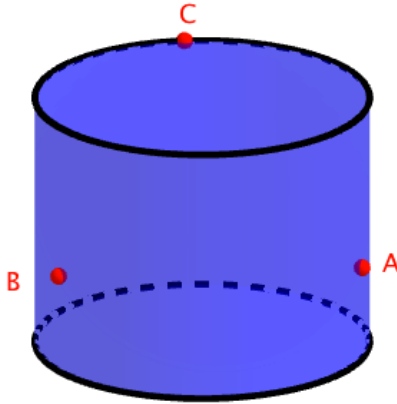


# Cylinder Cross Sections

**Performance Task:** In the image below, there are three points (A, B, and C) located on the surface of a cylinder.



Since the 3 points are not collinear, there is a single plane which passes through all three points A, B, and C. This plane would create a cross section through the cylinder.

1. What is the shape of the cross section formed by slicing the cylinder above with the single plane through all three points A, B, and C?
2. If you were able to move points A, B, and C, what cross section shapes can be formed by moving points A, B, and C anywhere along the surface of the cylinder, being sure the 3 points are not collinear?
3. Which of the following polygons can be created by slicing a plane through a cylinder? (Justify your answer.)
  - a. Pentagon
  - b. Heptagon
  - c. Quadrilateral
  - d. Triangle
4. Would changing the height or radius of the cylinder affect your answers above? (Justify your answer.)
  - a. No
  - b. Yes