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Class $\qquad$

## Problem 1 - Oblique Cylinder

On page 1.3, you are given a cylinder with radius 2 units and height of 20 units. Move point $A$ and answer the following question.

1. What do you notice about the volume when you move point $A$ ?

## Problem 2 - Triangular Pyramid

On page 2.1, you are given a triangular pyramid and 3 different parallel cross sections. Move point $B$ and point $A$ and answer the following questions.
2. What do you notice about the cross sectional areas of the triangles when you move point $A$ ?
3. What do you notice about the volume when you move point $A$ ?

## Problem 3 - Cavalieri's Principle

Cavalieri's Principle - If two space figures have the same height and the same cross-sectional area at every level, then they have the same volume.

Note that all three figures on page 3.2 have the same volume. Use page 3.2 to answer the following questions.
4. What is the area of the cross sections for the prisms on page 3.2?
5. What is the volume of the prisms on page 3.2?

