Complete the outline as you view Video Lecture 11.4. Pause the video as needed to fill in the blanks. Then press Play to continue. Also, circle your answer to each numbered exercise.

**Objective 1** Find the Volume of a Prism

<table>
<thead>
<tr>
<th><strong>Objective 1</strong></th>
<th><strong>Find the Volume of a Prism</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>1._____________</td>
<td>is the amount of space that a figure or solid occupies.</td>
</tr>
<tr>
<td>2. <strong>Cavalieri’s Principle</strong></td>
<td>If two solids have the same height and the same cross-sectional area at every level, then they have the same volume.</td>
</tr>
<tr>
<td><img src="image" alt="Diagram" /></td>
<td><img src="image" alt="Diagram" /></td>
</tr>
<tr>
<td>3. <strong>Volume of a Prism</strong></td>
<td>The volume of a prism is $V = Bh$ where $B$ is the area of the base and $h$ is the height of the prism.</td>
</tr>
</tbody>
</table>
Section 11.4 Volumes of Prisms and Cylinders and Cavalieri’s Principle

Work Video Exercise 1 with me.
1. Find the volume of the rectangular prism.

Pause and work Video Exercise 2.
2. Find the volume of the triangular prism.

Objective 2 Find the Volume of a Cylinder

Volume of a Cylinder

The volume of a cylinder is

\[ V = Bh, \text{ or } V = \pi r^2 h \]

where \( B \) is the area of the circle base (so we know that \( B = \pi r^2 \)) and \( h \) is the height of the cylinder.
Section 11.4 Volumes of Prisms and Cylinders and Cavalieri’s Principle

Work Video Exercise 3 with me.
3. Find the volume of the cylinder in terms of $\pi$ and to the nearest tenth.

![Cylinder with dimensions: height 5 m, radius 6 m.]

Pause and work Video Exercise 4.
4. Find the volume of the cylinder rounded to the nearest whole number.

![Cylinder with dimensions: radius 3.5 in, height 6 in.]

Play and check.

Work Video Exercise 5 with me.
5. Find the height of the figure with the given volume.

![Cylinder with height variable and volume $V = 3240\pi$ cu cm.]
A(n) __________ __________ is a combination of two or more simpler solids.

Work Video Exercise 6 with me.

6. Find the volume of the composite solid to the nearest whole number.