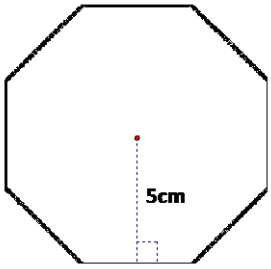
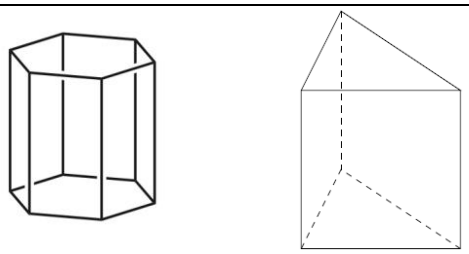
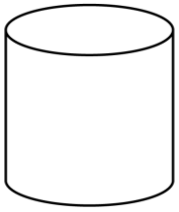
Lesson 2: MPM 1DI
Unit #7 - Measurement

(Part 1) Volume of Prisms, Cylinders and Cones

WARM-UP:

1	***I CAN SOLVE PROBLEMS INVOLVING AREAS AND PERIMETERS OF COMPOSITE TWO-DIMENSIONAL SHAPES.*** Determine the perimeter of the figure with an apothem of 5cm and an area of 125cm^2. 	☐ I'm an expert ☐ I need a bit more practice ☐ I will get extra help	p.406 #6-13, 17, 23

CHECK-IN 1:

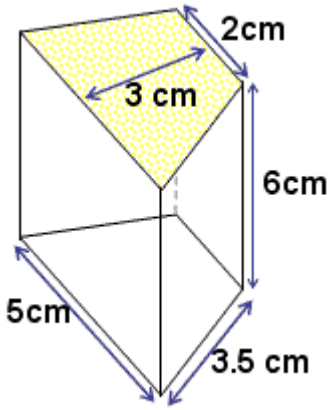
Feature	Prism	Cylinder
Identify the faces in the figures.		
What shape are the faces?		
How many lateral faces are there?		
What is the formula for the volume of the shape?		

*__NOTE__: These formulas only work if the faces are IDENTICAL and PARALLEL.

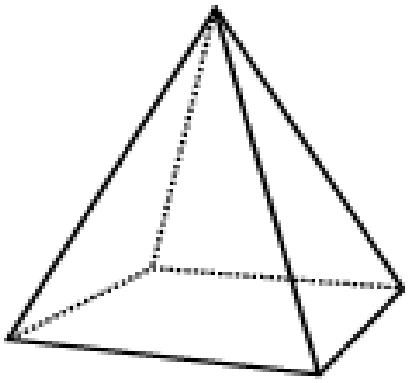
CHECK-IN 2:

For which of the following shapes could the formula $V = Ah$ work?

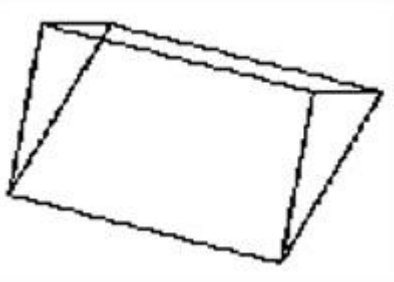
a)



b)

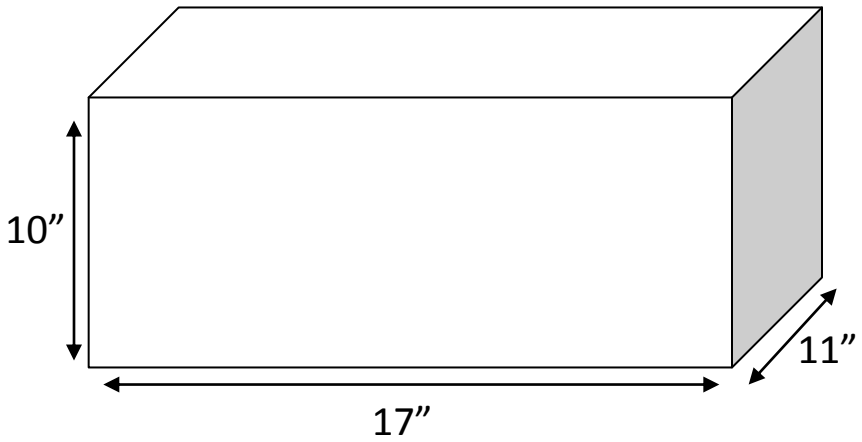


c)



Example 1:

A box is designed to fit packages of paper measuring 8.5” x 11” x 2.5”. How many packages can fit in the box?



Example 2:

To build a silo with a height of 45.0m and a volume of 5089.4m^3, what should the diameter be, to the nearest tenth of a metre?

Volume of a Cylinder is given by _____

Volume of Cone is given by _____

Describe the relationship between the volume of a cone and the volume of a cylinder:

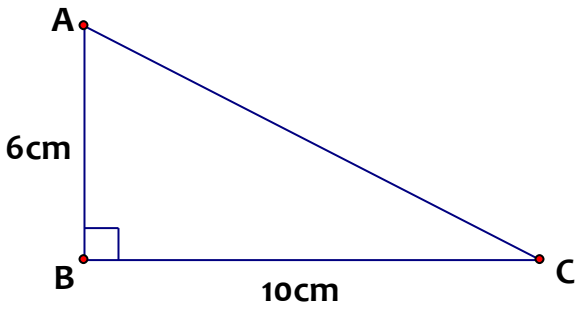
Example 3:

Candy is sold in paper cones. The store owner wants to fit $600cm^3$ of candy into a paper cone with a radius of 7cm. How tall does each cone have to be, to the nearest centimetre?

Example 4:

A cone can be made by rotating a right triangle 360˚ about the right angle.

a) Determine the volume of the cone made by rotating the triangle about side AB.



b) Determine the volume of the cone made by rotating the triangle about side BC.