C.O.: <u>SWBAT compare and contrast cylinders and cones to prisms and pyramids to determine their area and volume equations.</u>
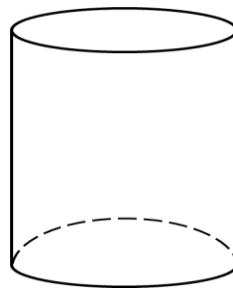
L.O.: <u>SWBAT use equations to solve for the areas and volume of cylinders and cones.</u>

<u>Cylinders:</u>

- A Cylinder shares similar properties to the Right Prism.

- It has two bases, and these bases are always _____.

- The line segment joining the bases is the _____, ___.

- The _____ of the base is also the _____ of the cylinder.

Right Prism   **Cylinder**

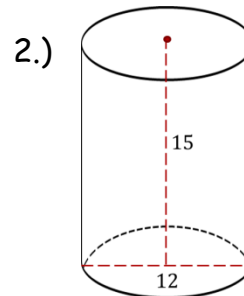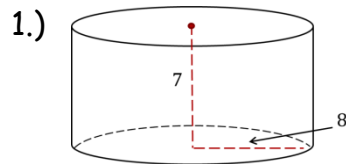*Refer to the cylinder diagram above for the following theorems*

<u>**Theorem 12-5:**</u> The lateral area of a cylinder equals _____

_____.

Equation:

<u>**Theorem 12-6:**</u> The volume of a cylinder equals _____

_____.

Equation:

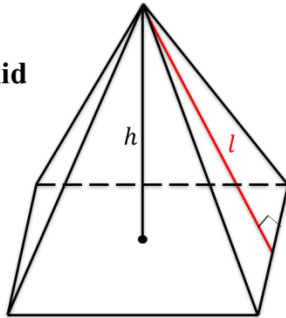<u>**Practice:**</u> For the following cylinders, find the (a) Lateral Area (b) Total Area and (c) Volume.
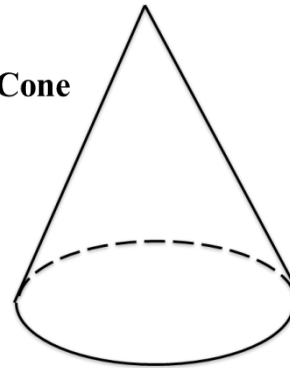
1.)

7

8

2.)

15

12

Cones:

- A Cone shares similar properties to the regular pyramid.
- It has a single base, and that base will always be a _____.
- The line segment joining the vertex to the base is the _____, __.
- The segment joining the vertex to an end of the diameter of the base is the _____ _____, __.
- The _____ of the base is also the _____ of the cylinder.

Regular Pyramid

Cone

Refer to the cylinder diagram above for the following theorems

Theorem 12-7: The lateral area of a cone equals _____

_____.

Equation:

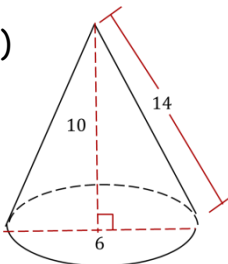**Theorem 12-8:** The volume of a cone equals _____

_____.

Equation:

Practice: For the following cylinders, find the (a) Lateral Area (b) Total Area and (c) Volume.

1.)

14

10

6

2.)

l

12

5