Name: _____

Information Needed to Solve 3-D Area and Volume

In order to determine three-dimensional area and volume, just like with two dimensional area, you must first know what formulas you are using and be able to identify the information that you will need to plug into those formulas.

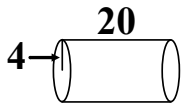
A = Area of **the Base** Figure (also represented with a B)
P = Perimeter **of the Base** Figure
H = Height **of the 3-D** Figure (the distance from base shape to base shape on a prism or cylinder, or from base shape to the tip on a pyramid or cone)
l = slant height (the distance from the tip of a pyramid/cone *down the side* to the edge of the base)
r = radius of the circle

These parts on the figure are used to determine:

L = Lateral Area **of the 3-D** Figure (you have to solve for lateral area before you can plug it into surface area)
S = Surface Area (area of the figure when you add the sides—lateral area— with the base(s)—base area)
V = Volume

For each given figure, determine **base area and perimeter** (spheres won't have a base area or perimeter); write in the Lateral, Surface Area and Volume formulas (spheres won't have lateral area); and identify H, l, and r (the figures will not have all three).

1.



Base Area:

Perimeter of the Base:

3-D Formulas:
Lateral Area

Surface Area

Volume

H = _____ l = _____ r = _____

2.

Base Area:

Perimeter of the Base:

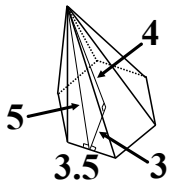
3-D Formulas:
Lateral Area

Surface Area

Volume

H = _____ l = _____ r = _____

3.



Base Area:

Perimeter of the Base:

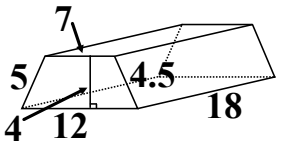
3-D Formulas:
Lateral Area

Surface Area

Volume

H = _____ l = _____ r = _____

4.



Base Area:

Perimeter of the Base:

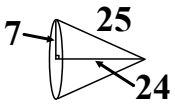
3-D Formulas:
Lateral Area

Surface Area

Volume

H = _____ l = _____ r = _____

5.



Base Area:

Perimeter of the Base:

3-D Formulas:

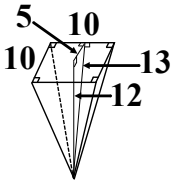
Lateral Area

Surface Area

Volume

H = _____ *l* = _____ *r* = _____

6.



Base Area:

Perimeter of the Base:

3-D Formulas:

Lateral Area

Surface Area

Volume

H = _____ *l* = _____ *r* = _____

7.

Base Area:

Perimeter of the Base:

3-D Formulas:

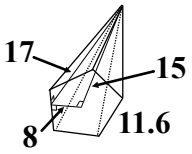
Lateral Area

Surface Area

Volume

H = _____ *l* = _____ *r* = _____

8.



Base Area:

Perimeter of the Base:

3-D Formulas:

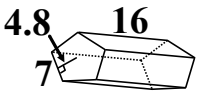
Lateral Area

Surface Area

Volume

H = _____ *l* = _____ *r* = _____

9.



Base Area:

Perimeter of the Base:

3-D Formulas:

Lateral Area

Surface Area

Volume

H = _____ *l* = _____ *r* = _____

10.

Base Area:

Perimeter of the Base:

3-D Formulas:

Lateral Area

Surface Area

Volume

H = _____ *l* = _____ *r* = _____