Problem 1 – Rectangular Prisms

Explore the rectangular prism on page 1.4 by grabbing and dragging the open vertices.

1. When is the prism a *right* prism?

2. When is the prism an *oblique* prism?

3. Use the **Calculate** tool on page 1.8 to find the volume of the right rectangular prism. Record the dimensions of your prism below.

Base length = _____ (***l***) Base width = _____ (***w***)

Area of the Base = _____ (***B***)

Prism height = _____ (***h***) Prism Volume = _____ (***V***)

Problem 2 – Triangular Prisms and Pyramids

4. Grab and drag the vertices of base on page 2.2. Why is it called a *triangular prism*?

5. Find the volume of the triangular prism and record the dimensions below.

Triangle base = _____ (***b***) Triangle height = _____ (***h***)

Area of Triangle = _____ (***B***)

Prism height = _____ (***h***) Prism Volume = _____ (***V***)

6. What is the difference between a *prism* and a *pyramid*? What portion of the volume of a prism is the volume of a pyramid with the same base and height?

7. Find the volume of the pyramid on page 2.4. Record the dimensions of your pyramid.

Triangle base = _____ (***b***) Triangle height = _____ (***h***)

Area of Triangle = _____ (***B***)

Pyramid height = _____ (***h***) Pyramid Volume = _____ (***V***)

8. How are the triangular prism and triangular pyramid alike? How are they different?

9. How are their volume formulas alike and different?

Problem 3 – Cylinders and Cones

10. Use the **Text** and **Calculate** tools on page 3.1 to find the volume of the cylinder. Record the steps you performed to find the volume:

(1)_____

(2)_____

11. Record the dimensions of your cylinder below.

Circle radius = _____ (***r***) Area of Circle = _____ (***B***)

Cylinder height = _____ (***h***) Cylinder Volume = _____ (***V***)

12. Find the volume of the cone on page 3.4. Record the dimensions of your cone below.

Circle radius = _____ (***r***) Area of Circle = _____ (***B***)

Cone height = _____ (***h***) Cone Volume = _____ (***V***)

13. If a cone and a cylinder have the same radius and the same height, how is the volume of the cone related to the volume of the cylinder?

How does this related to the prism and pyramid formulas when the prism and the pyramid have the same base and the same height?