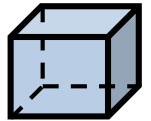# Surface Area and Volume: Prisms Notes

What is a prism?
## What are its properties?

- A prism is a polyhedron with two congruent bases in parallel planes
  - **Bases:** _____ _____ polygons
  - **Faces:** _____ (which are often congruent to each other)
    - **Note:** They will only be _____ if the bases are _____ polygons
  - **Height (also called the altitude):** A _____ segment with end points in each plane
    - It measures _____ from base to base

Bases (triangles)

Height

Face (rectangle)
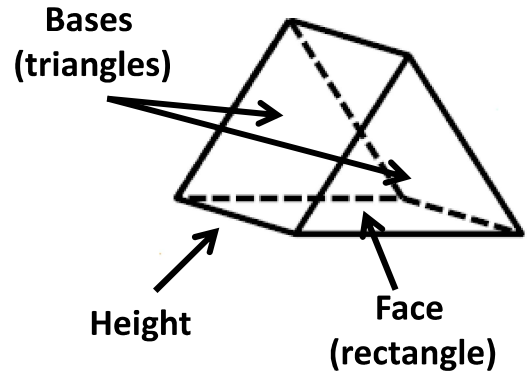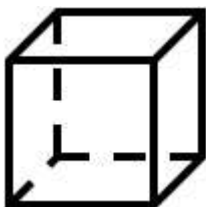
Name: Triangular Prism
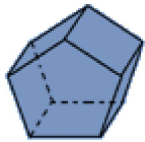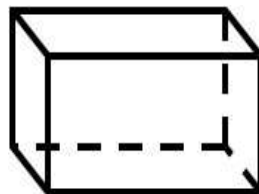
Types of Prisms
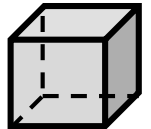
- Prisms come in all types
  - Prisms are named by the shape of their base but since prisms do not have to sit on the base you want to look for:
    - Polygons that are congruent and parallel
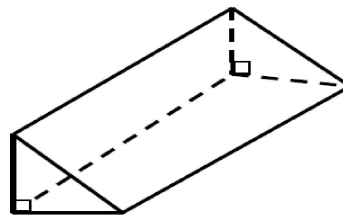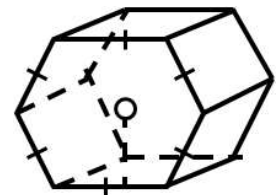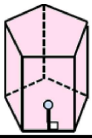   - **Hint:** Check first for polygons that are _____ _____
  - Some examples are:

_____ **Prism (Cube)**
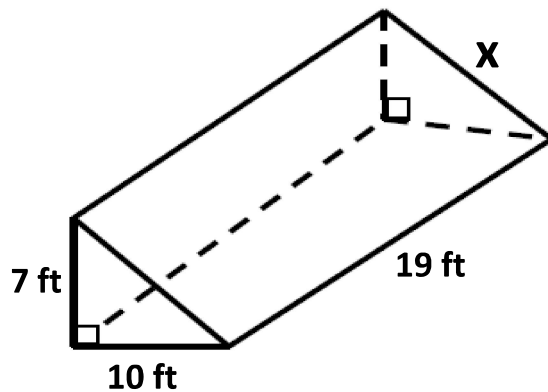
_____ **Prism**

**Right** _____ **Prism**

_____ **Prism**

Surface Area of a Prism

- **Surface Area:**

  - Surface area is the _____ of the all of the _____ surfaces on a three-dimensional shape

    - It is measured in _____ units

  - Surface Area can be found in one of two ways:

    - **Way One:** Find the area of each individual face and then add them together

    - **Way Two:** Use a formula

      - SA = _____ + _____

        - P = _____ of base, h = _____ of prism, B = _____ of base

Examples: Find the Surface Area of each figure

17.8 ft

4.2 ft

6.8 ft

12.1 ft

10 ft

14 ft

X

7 ft

19 ft

10 ft
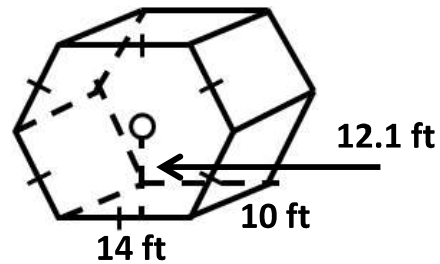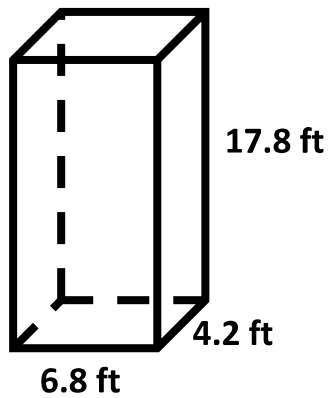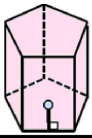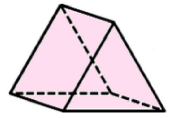
Volume of a Prism

- **Volume:**

  - Volume is the amount of _____ _____ of a three-dimensional figure
    - It is measured in _____ units
  - Volume is found by finding the area of the _____ of the figure and multiplying by the _____ of the prism.
    - V = _____
      - B = _____ of base, h = _____ of prism

Examples: Find the volume of each figure

6.2 ft

6.2 ft

6.2 ft

14 ft

5.5 ft

8 ft

16 ft

27 ft

16 ft