

#### 1.1: Nets and Drawings for Visualizing Geometry

When you shine a flashlight on an object, you can see a shadow on the opposite wall. What shape would you expect the shadows in the diagram to have? Explain your reasoning.



#### **POLYGON:**

A closed figure (all sides meet and no sides cross each other) with straight sides.

### WHAT MAKES A POLYGON 2-DIMENSIONAL OR 3-DIMENSIONAL?

- 2D objects have only a length and width (or you could call it "base and height.")
- 3D objects have a length, width, and height.

Identify each figure as two-dimensional or three-dimensional.





A 2-dimensional diagram that you can fold to form a 3-dimensional figure

### NAME THE 3D FIGURE THAT WOULD BE FORMED. RECTANGULAR CYLINDER PRISM

YOU TRY!

- a) Match each 3D figure with its net.
- b) Then name the 3D figure.



#### **ISOMETRIC DRAWING:**

# shows a corner view of a 3-dimensional figure





## DRAW THE FIGURE TO THE RIGHT ONTO THE ISOMETRIC DOT PAPER.

After drawing:

- place a T on each square that appears on the TOP
- an F for FRONT
- and an S for (right) SIDE.





#### **ORTHOGRAPHIC DRAWING:**

### shows three separate views as 2-D objects

#### MATCH THE DESCRIPTION TO EACH ORTHOGRAPHIC VIEW.

#### (CLICK BELOW TO SEE ANIMATIONS)





#### When would you use a solid line in a drawing?

Solid lines show visible edges.

#### .. A dashed line????

Dashed lines show hidden edges.

#### YOU TRY!

Sketch the three orthographic drawings (top, front, and side) for each isometric drawing. 1. 2. 3.



