**Day3: SURFACE AREA**

The surface area of a three-dimensional object is the area of the entire outer surface. Just as area is expressed in square units, surface area is also ***ALWAYS*** expressed in square units; – cm2, in2, m2, etc. For all prisms, drawing a net, finding the area of each part of the net, and adding these values together will always find the surface area. Some prisms have specific formulas that can be used to calculate the surface area.

Example 1: Draw a net for the right rectangular prism below and calculate the surface area.

4.5 m

3.8 m

5.7 m

Solution: Draw the net, label all the dimensions, and find the area of each part. Add the areas together to get the surface area.

Alternate Solution: A formula exists for surface area of a right rectangular prism. Draw the net and then use the formula to calculate the surface area.

**SA = 2*lw* + 2*lh* + 2*wh***

**ASSIGNMENT 5 – SURFACE AREA OF PRISMS USING NETS**

For the following prisms, draw a net and use it to calculate the surface area.

1)

27 cm

11 cm

16 cm

2) 10 in.

18 in.

8 in.

6 in.

**Surface Area of Irregular FIGURES**

Sometimes figures are not a nice regular prism, but a combination of several prisms put together or one prism with parts missing. In order to calculate the surface area of these irregular figures, the shape often needs to be divided into parts and the area of the individual faces needs to be calculated and added together.

Example: Calculate the surface area of this figure. Include the bottom and the back.

4.4 m

5 m 1.8 m

3.5 m

9.5 m

Solution: Divide the figure into parts, label all the dimensions, calculate the individual area of each face, and add these areas together.

The figure is divided into 2 main rectangular prisms. The dimensions have been labelled and capital letters have been assigned to different faces

**NOTE**: This is *not* the only way to divide the figure into parts. Other ways exist.

**ASSIGNMENT 6 – Surface Area of Irregular FIGURES**

Calculate the surface area of the following figures. Show ALL calculations and work.

1)

7 cm 5 cm

4 cm 4 cm

6 cm

15 cm

2)

3 m 3 m

10 m

15 m

12 m

28 m

Assignment: Pg. 146 #1-4 + What Happened to Zelda After She Swallowed Two Nickels, Three Dimes, and a Quarter?