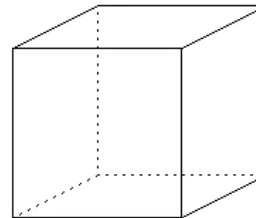**Math 9**

1.3 – Surface Areas of Objects Made From

Right Rectangular Prisms I

Name: _____

Date: _____

Find the *Surface Area* of a 3D object means…

How to find the Surface area of a single cube:

Side Length	Area of one face	SA of cube

Warm Up: Working in pairs, complete the Activity on page 25 of your textbook.

Number of Cubes	1	2	3	4	5	5
Total Surface Area (*square units*)						

Composite Object – Any object made up, or *composed*, of other objects.

Example 1: Find the Surface Area of the following composite object. Each cube has **side length 2 units**.

Method 1 – Every composite object has 6 views: LEFT, RIGHT, FRONT, BACK, TOP, BOTTOM. Sketch all 6 views of the object and count all visible squares in each view.
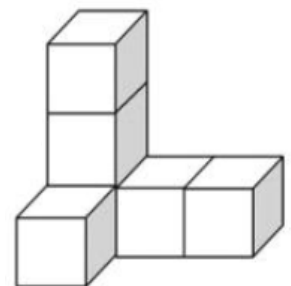
Method 2 – Using Overlap

Total Surface Area of Composite = Total Surface Area of __all__ solids – 2 x Total Overlapping SA

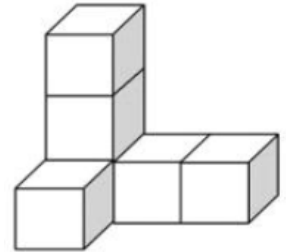SA of each face   _____

Total # of cubes   _____   Total # of faces   _____

Total SA of all cubes   _____

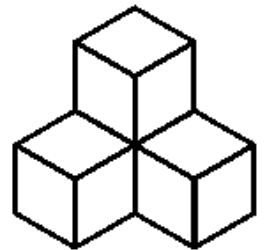# of overlaps   _____   **Total overlapping SA**   _____

          Total SA of composite   _____

Example 2: Find the SA of the following composite object if each cube has **side length 3 units**.
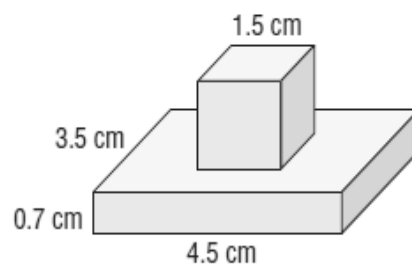
Method 1

Method 2 – Show all work clearly!

1.3 – Surface Areas of Objects Made From Right Rectangular Prisms II

*Remember! – The TOTAL SA of a composite solid = Total SA of all separate solids – 2 x Total overlapping SA*

Example 1: Find the SA of the following composite object. Show all work clearly.

1.5 cm

3.5 cm

0.7 cm

4.5 cm

Example 2: Find the amount of material needed to cover the steps shown in the figure.

3cm

3cm

9cm
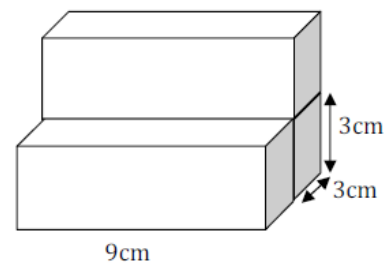
Example 3: The sides and the roof of the building shown below is to be painted. If the paint costs $\$2/m^2$, determine the total cost of the paint. Show all work clearly!
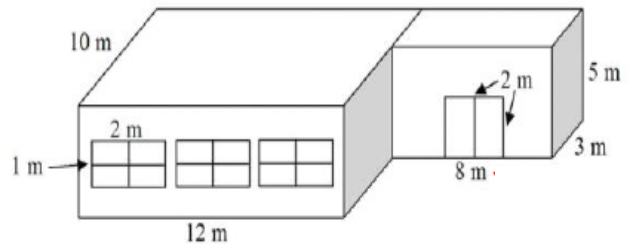
Formulas for the Surface Area of Regular Shapes & Solids