Dice

Introduction: Creation of a Playing Dice using equations to create sketches and extrusions.

Learning Intentions: This lesson will focus on the **Global Variables and Fillet Set Back Commands.**


Prerequisite knowledge: To complete this exercise you should have a working knowledge of SolidWorks 2009 and a previous knowledge of the following commands are required for this lesson: **Sketching Extruded Boss/Base, Extrude Cut, Fillet, Adding Appearances and Fillets**

Note: To enhance the learning experience use a dice to check the configuration of the dots.
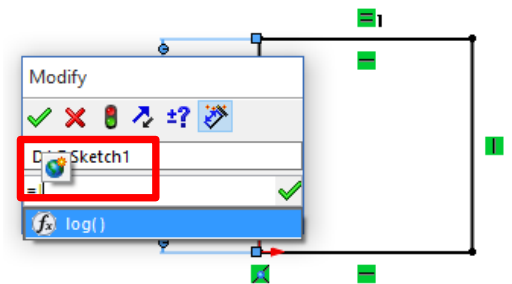
Creating the Cube

New Part

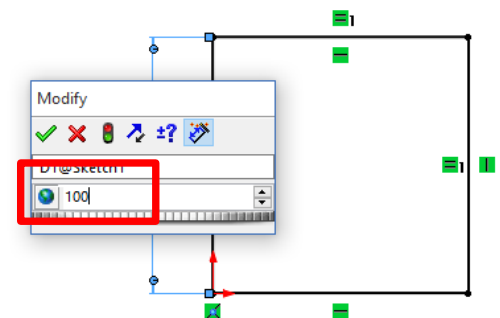Sketch a rectangle and select the **Add Relation** command to create a square
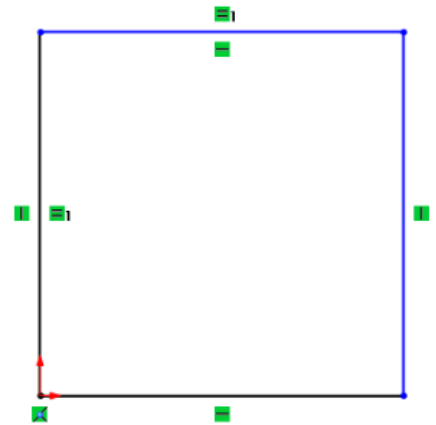
Global Variable

▲

Select **Smart Dimension** and insert $= \mathbf{L}$ (Length) you will rompted to create a Global Variable
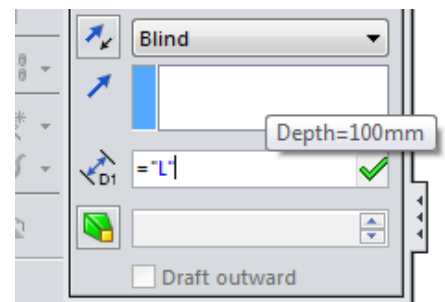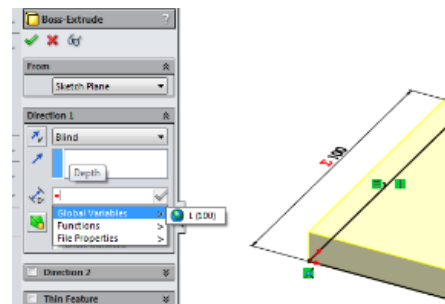
Select Yes

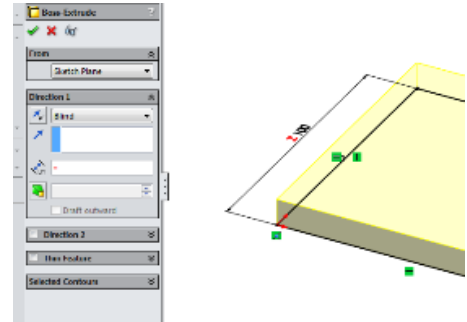Modify

D1@Sketch1

log( )

Smart Dimension

Insert the value 100mm

Modify

D1@Sketch1

100

Extrude Boss/Base

Pick the **Depth** option and enter **=** you will have three options. Select **Global Variables** Enter **L** (Depth = 100) Extrusion complete
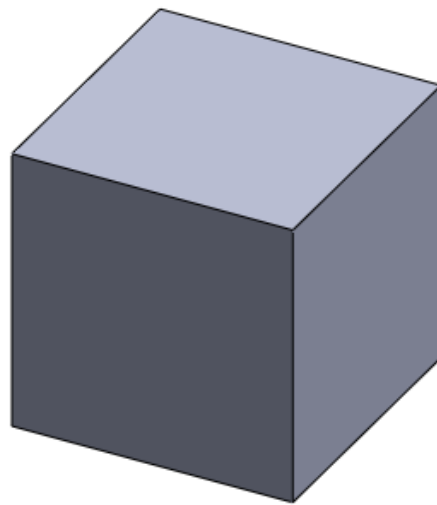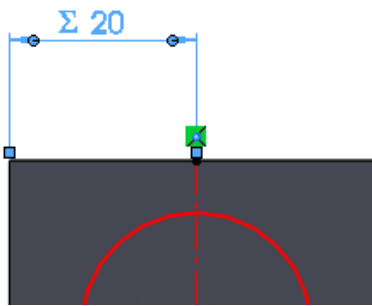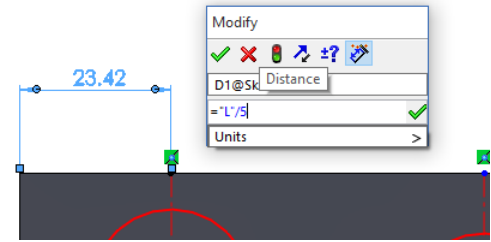
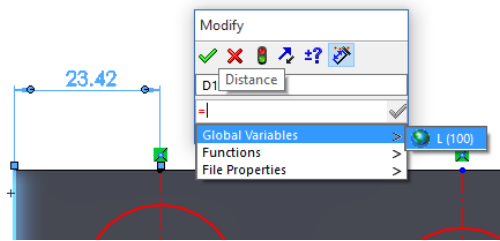## Inserting the Dots

Circle Sketch

Select a face of the cube and draw two construction lines to make them coincident with the side of the cube. Draw six circles locate two at the midpoint of the line and use the **Add Relation** command to make all the circles equal.
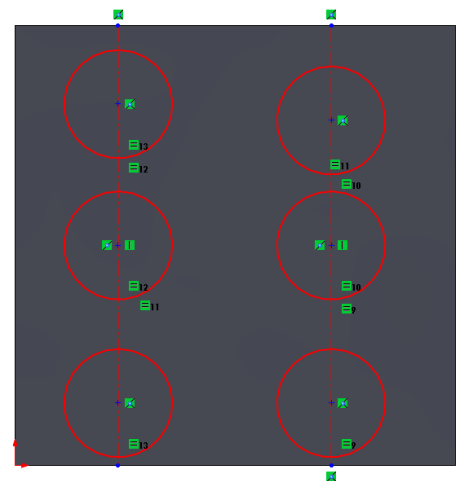
Smart Dimensions Dimension the centre lines using the **=** option and the
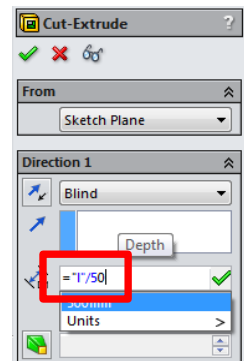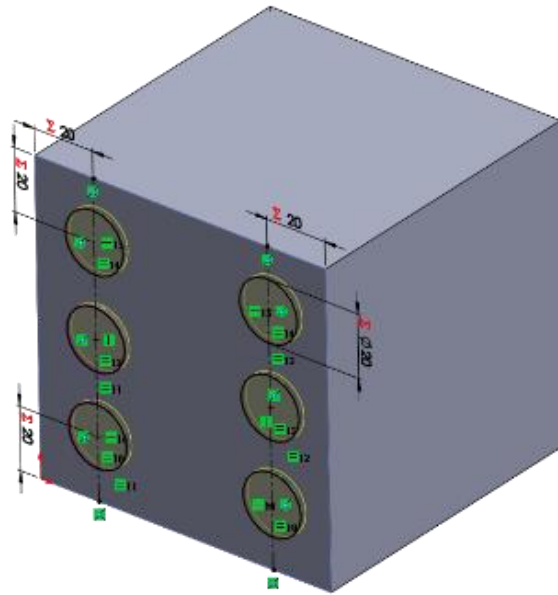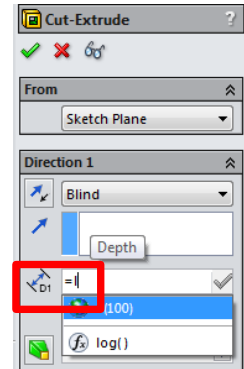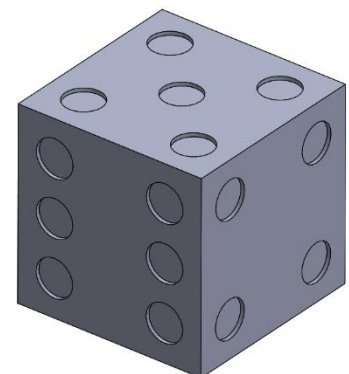
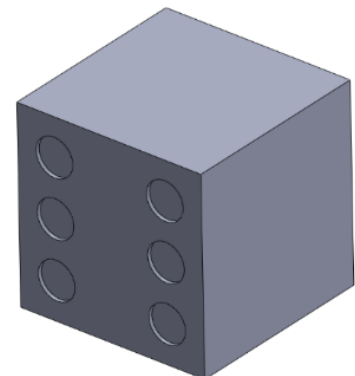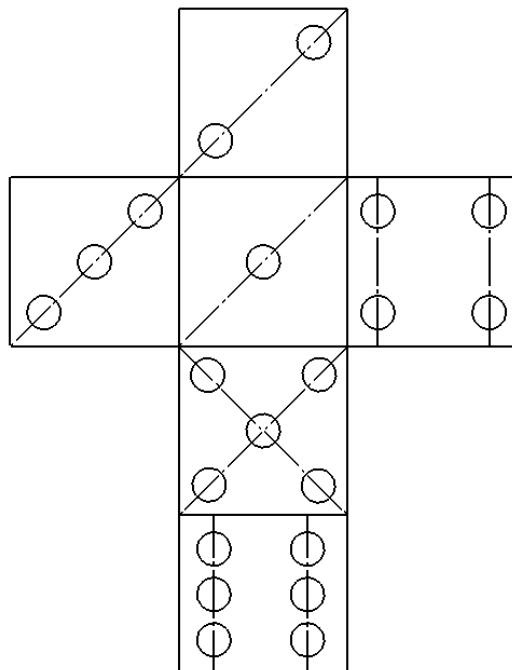Global Variable divided by 5

Smart Dimensions
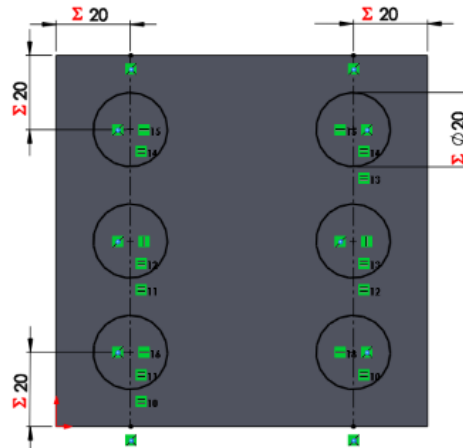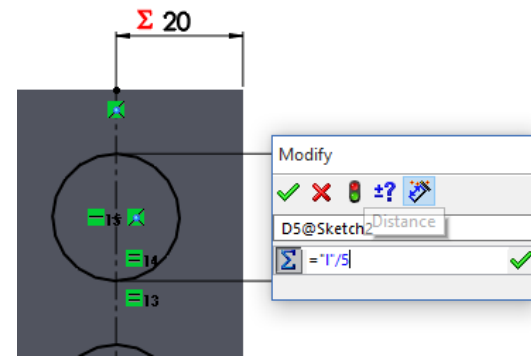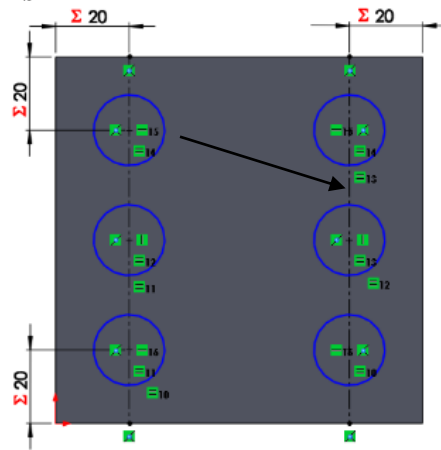
Cut Extrude   Select the sketches and use the **Cut-Extrude** command using the = symbol and the Global Variable L
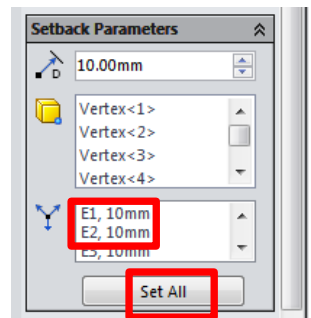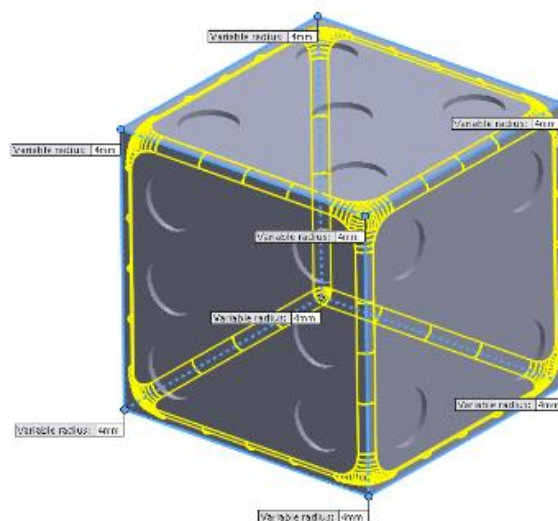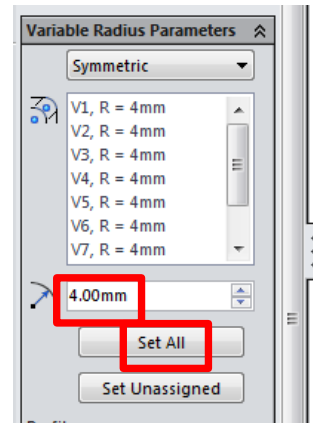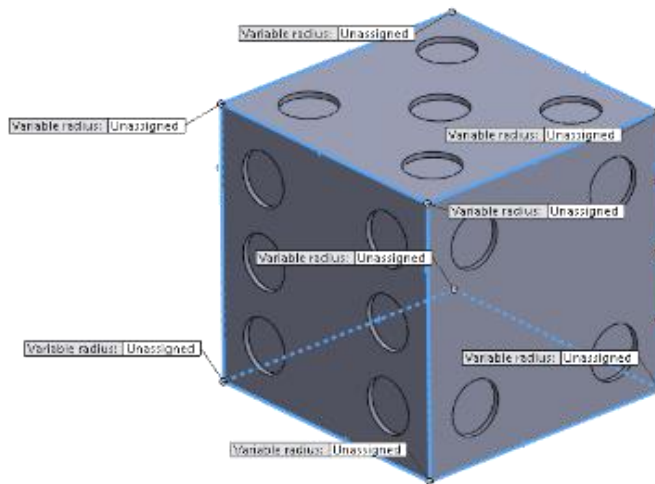

Dot location

Note: Opposite totals equal 7

Fillet   Choose the **Fillet** command a**nd select all edges of the cube**

4mm Variable size Fillet, Radius, Set All

(Setback Parameters)

Apply Colour using **PhotoView 360**