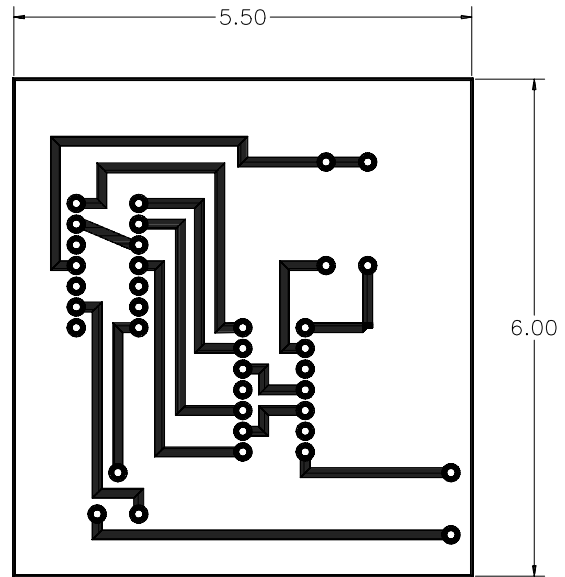


CHAPTER 15 EXERCISES

1. Printed Circuit

Complete the printed circuit board in Figure ME15-1. Use *Donut* with an inside diameter of .1 and an outside diameter of .2 to create the pads. Use *Pline* with a width of .12 to complete the traces. Use a .25 *Grid* and *Grid Snap* to place all pads (*Donuts*) on a point. *Save* the drawing as CH15EX1-M.

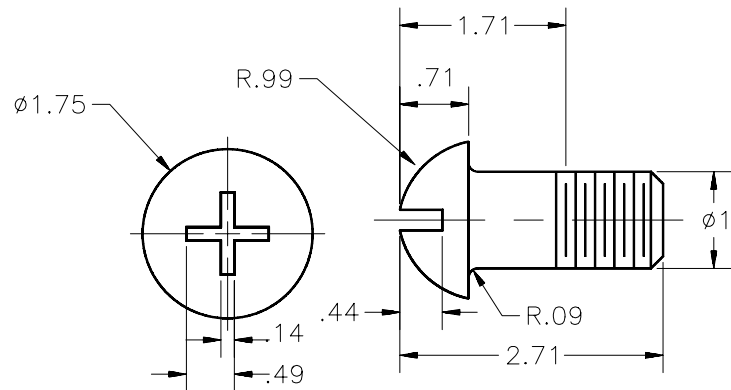
Figure ME15-1



2. Machine Screw

Draw the machine screw shown in Figure ME15-2. Since this is a schematic thread representation, you can estimate the thread pitch (distance between two crests or two roots). *Save* the drawing as CH15EX2-M.

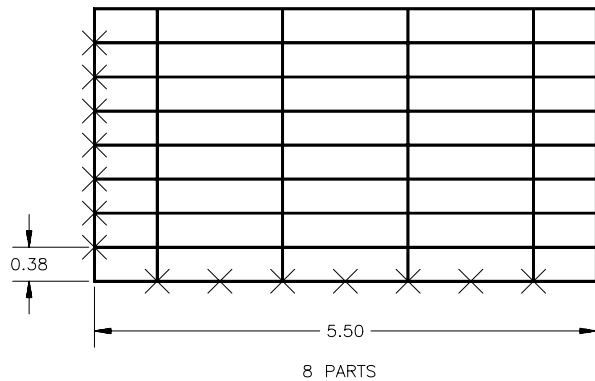
Figure ME15-2



3. Bill of Materials

Complete the table in Figure ME15-3 to be used as a bill of materials. *Draw* the bottom *Line* as dimensioned. Use the *Divide* and *Measure* commands to find the necessary points. Create *Offsets Through the Points* using *Node OSNAP*. *Save* the drawing as BOM.

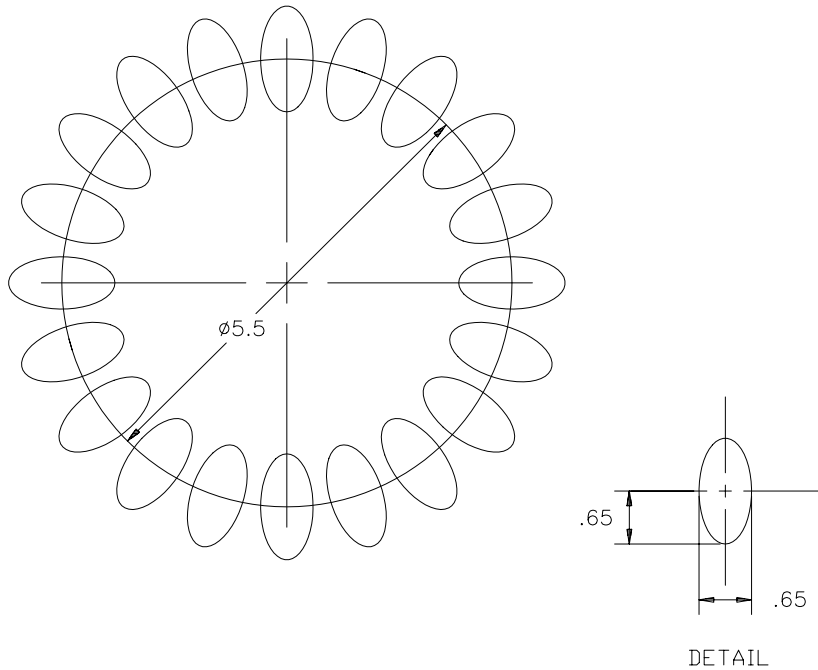
Figure ME15-3



4. Gear

Complete the diagram of the gear in Figure ME15-4A. Use the *Polar* option of the *Array* command to copy and rotate one tooth (*Ellipse*) around the *Circle* 20 times. Use the *Region* command to convert the teeth and *Circle* to regions.

Figure ME15-4A



Using the *Subtract* command, select the *Circle* at the “select solids and regions to subtract from” prompt. Select each of the teeth at the “select solids and regions to subtract” prompt, then press **Enter**. Your drawing should look like that in Figure ME15-4B. **Save** the drawing as **CH15EX4-M**.

Figure ME15-4B

