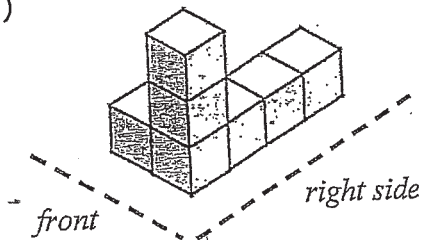# Review Design Modeling

1. Know all terms (see notes).

2. Determine the value of x in each proportion:
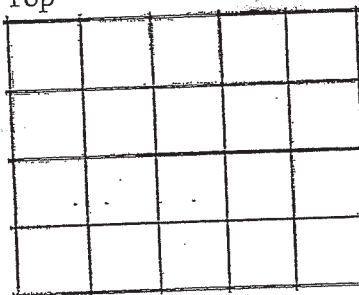
   a) $\dfrac{2}{15} = \dfrac{x}{19}$

   b) $\dfrac{9}{12} = \dfrac{x}{20}$

3. The distance between Calgary and Medicine Hat on the map is 27 cm. If the scale is **1 cm : 10 km**, calculate the actual distance in km.

4. Kristen has a **1 cm : 20 cm** scale toy glider. The real glider has a length of 672 cm. Calculate the dimensions of the toy glider.

5. Jon drew a building plan. He used a scale of 5 inches on the diagram to represent 6 feet in the building. Find the scale factor of the plan.

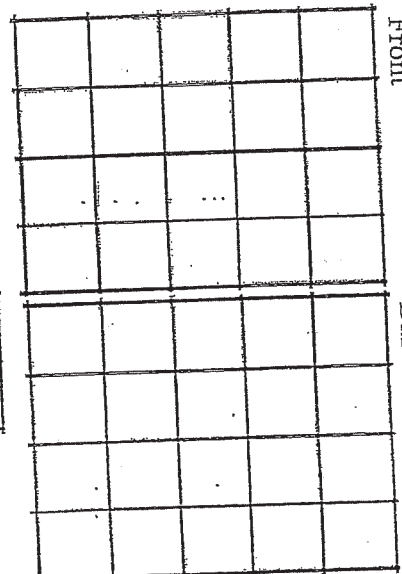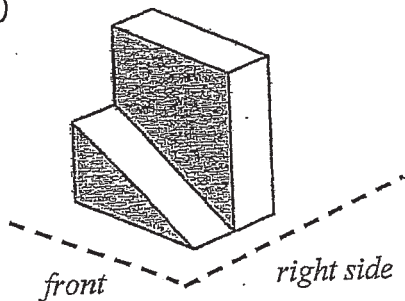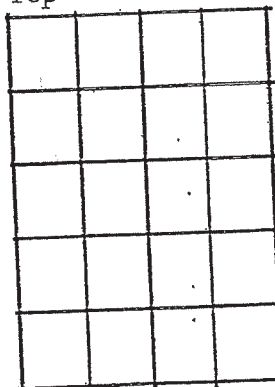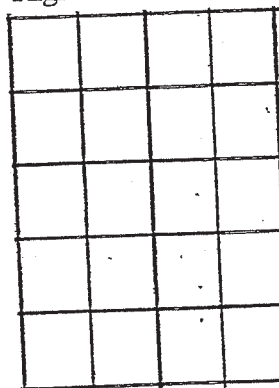6. For the below block diagrams, draw the listed 2D views.
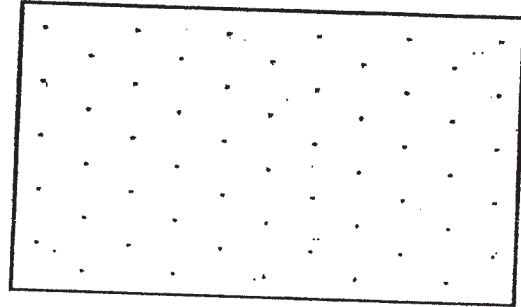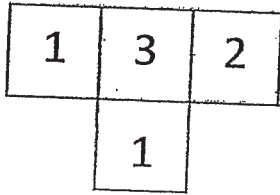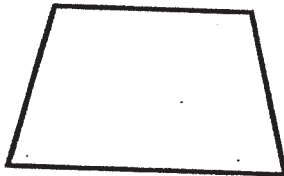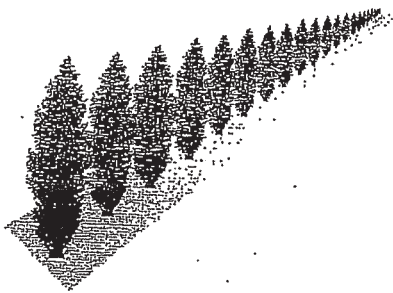
a)

Top

Front

Base Plan

Top   Right Side

b)

7. Draw the following base plan on isometric dot paper. You will need to picture the shape in your mind and do your best to draw what you see.
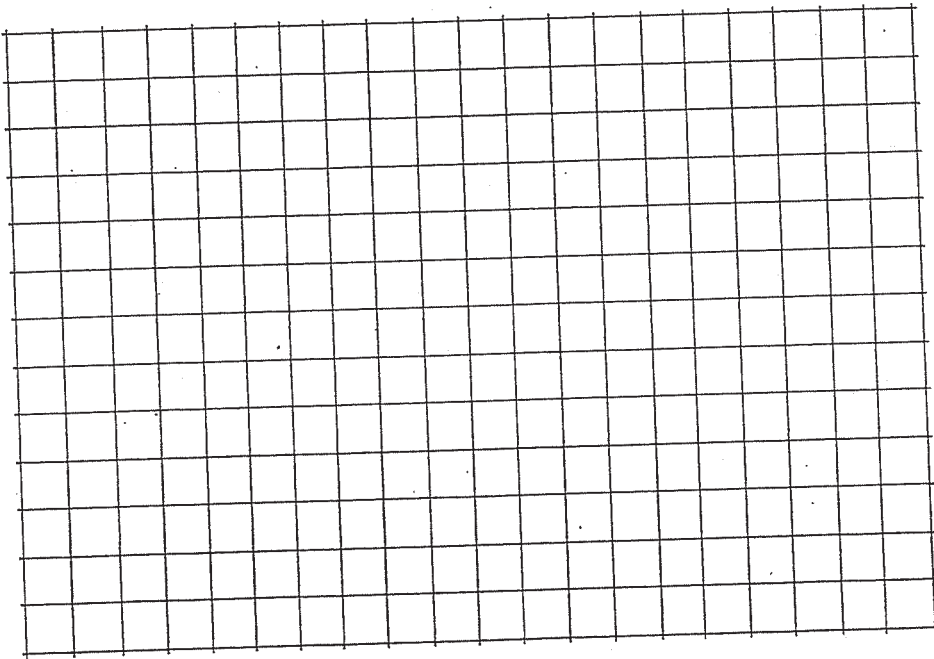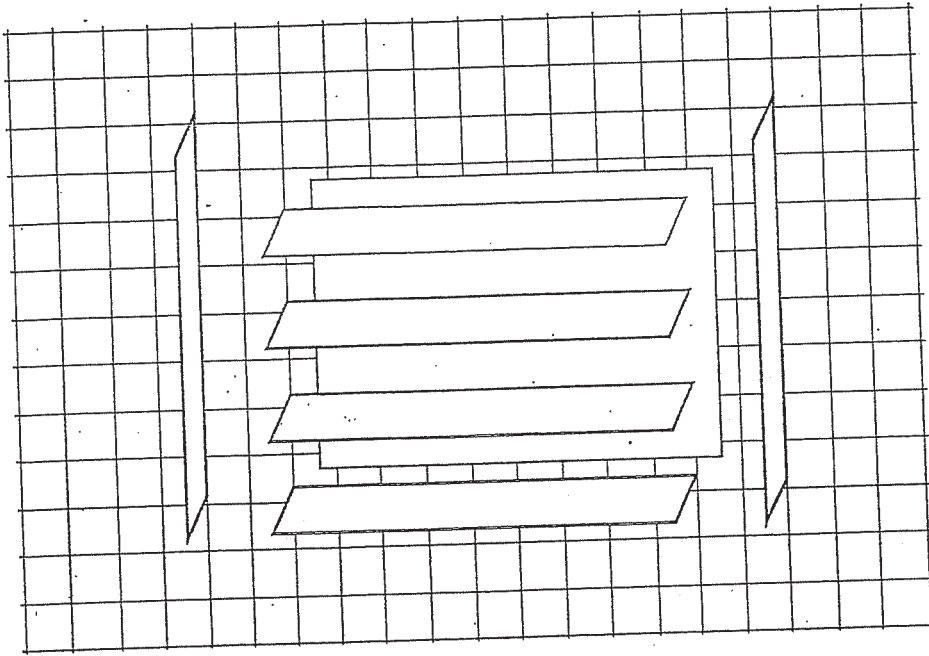
1	3	2
	1	

8. Draw a one-point perspective view of the following object. Do not forget to include your vanishing point.
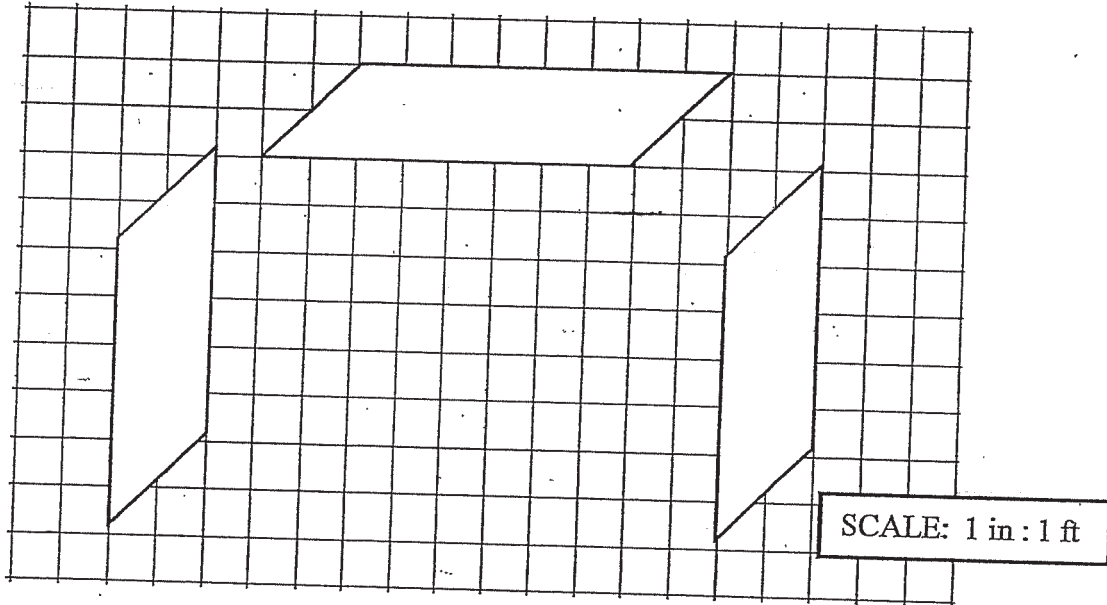
9. Identify the vanishing point of the trees. Please use a ruler or straight edge.

10. Below is a component parts diagram of a shelf. Compress the pieces into an oblique diagram.
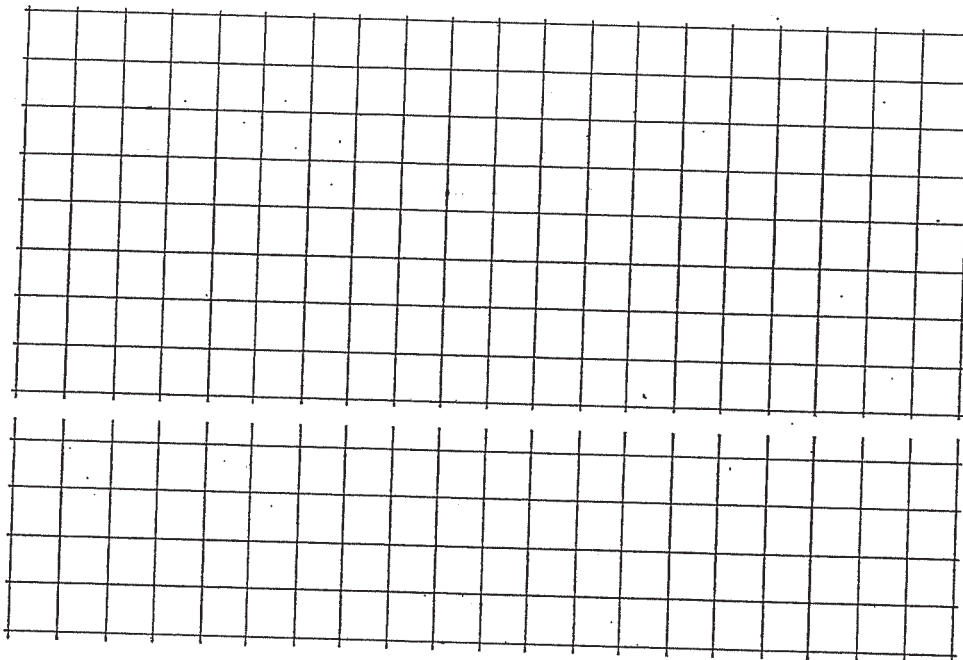
11. Complete the following component parts and wasted space calculations. The diagram below is an exploded view of a table.

SCALE: 1 in : 1 ft

a) Complete the following chart:

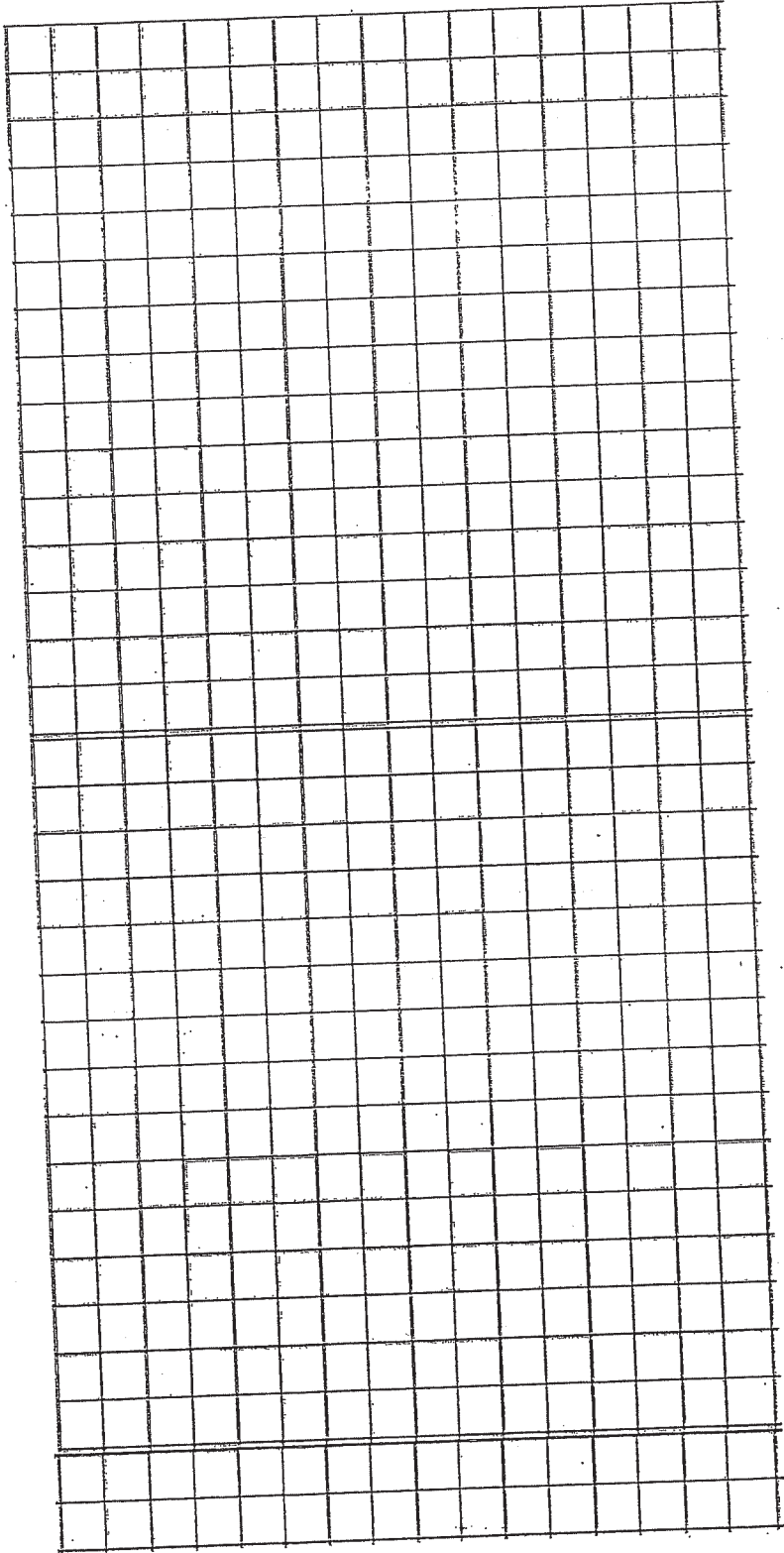| Part	Number of Parts	Scale Dimensions	Actual Dimensions

b) Use your scale dimensions from the first chart to draw the component parts in 2 dimensions.

c) The pieces of the table are to be cut on a sheet of 4 ft x 8 ft plywood. Arrange the
component parts on the sheet of plywood to minimize waste.

SCALE: 1 in : 1 ft

d) Calculate the area of wasted material on the 4 ft x 8 ft sheet of plywood.

e) If the cost of a 4 ft x 8 ft sheet of plywood is $16.00 (taxes included), find the cost of the wasted material.