S.2 Holiday Work

• ATTEMPT ALL QUESTIONS

1. Construct a triangle with base angles= $67\frac{1}{2}^\circ$, and 75° with an altitude= 75mm.
   b) Transform the triangle to a square of equal area.

2. Construct a plane figure ABCDE with base AB= 50mm, angle AED is a right angle while angle ABC= 120°, BC=48mm, diagonal BD= 75mm, angle ABD 75°, and angle BDE, 60°.
   b) Construct a similar figure with area in the ratio 3:5

3. Construct the figure accurately showing clearly the construction details

4. Construct a hyperbola given its eccentricity as 4/3 and its directrix as 35mm from the focus.

5. The length of one side of a regular pentagon is given as 40mm.
   (a) Using geometrical methods, construct this regular pentagon.
   (b) Transform this pentagon into a rectangle of equal area.
6. The figure below shows a pentagon ABCDE. By means of geometrical construction, transform it into a square having the same area. Measure and state the length of side of the square.