

735/1

GEOMETRICAL DRAWING

Paper 1

July. 2019

3 hours

UGANDA CERTIFICATE OF EDUCATION

GEOMETRICAL DRAWING MOCKS EXAMS

Paper 1

3 hours

Instructions to candidates:

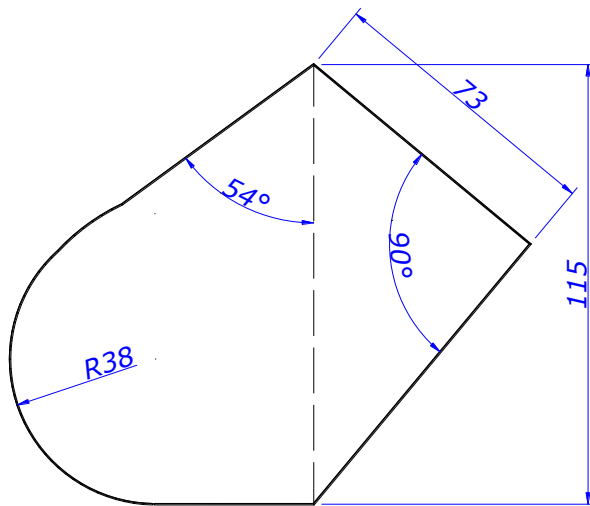
- *This paper consists of two sections, A and B*
- *Answer four questions, two questions from each section.*
- *All questions carry equal marks*
- *A sheet of drawing paper, size A2 is provided. Use both sides of the drawing paper.*
- *Drawings are not to scale.*
- *Unless otherwise stated in the question, strictly geometrical methods must be used;*
- *but lines which are parallel, perpendicular, or inclined at angles of 30° , 45° , 60° to other lines which may be drawn without using constructional methods.*
- *All dimensions of the figures are in millimeters.*
- *Unless otherwise stated, solutions are to be in drawn full size.*
- *No dimensions are required on any solution unless specifically requested.*
- *Write your name and examination number at the bottom right-hand corner of your paper*

SECTION A (PLANE GEOMETRY)

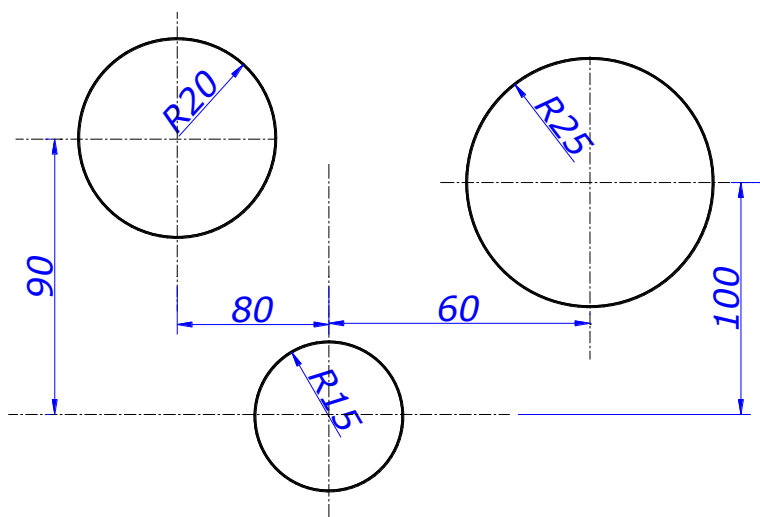
1.a) The 30mm mark on a dipstick for measuring the contents of oil in a tank represents three quarters of a liter.

Design your own dipstick in form of a diagonal scale for measuring up to $4\frac{1}{2}$ liters of the content of the container

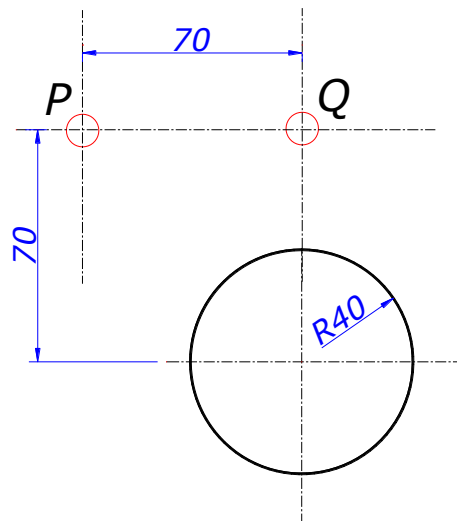
b) Construct the shape given below and construct a similar figure with its area reduced by a half.



2.a) Draw a circle to touch the circles shown in the figure below



- b) Construct a circle to pass through both **P** and **Q** and touch the given circle shown in the figure below,
Measure and state the diameter of the circle



3. The crank **OA** of the mechanism shown below rotates about **O** clockwise. The end **N** of the link **AN** moves along the line **XY** and **SR** swings about **S**.

Construct the locus of **T** and **M** for one complete revolution of crank **OA**.

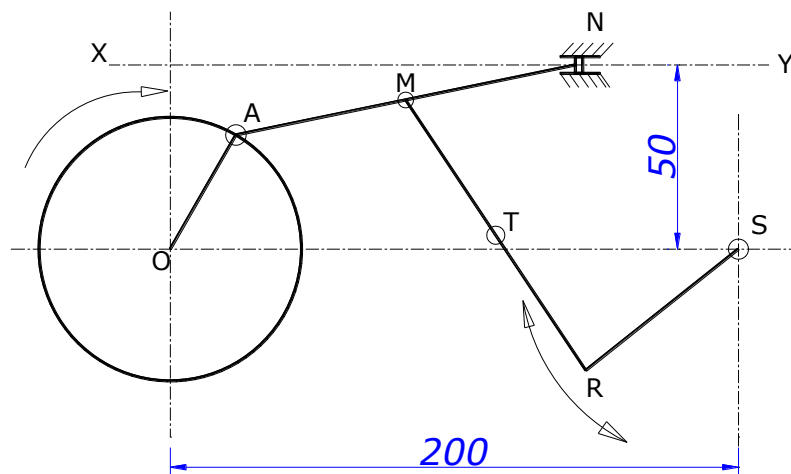
$$OA = 40\text{mm}$$

$$AN = 150\text{mm}$$

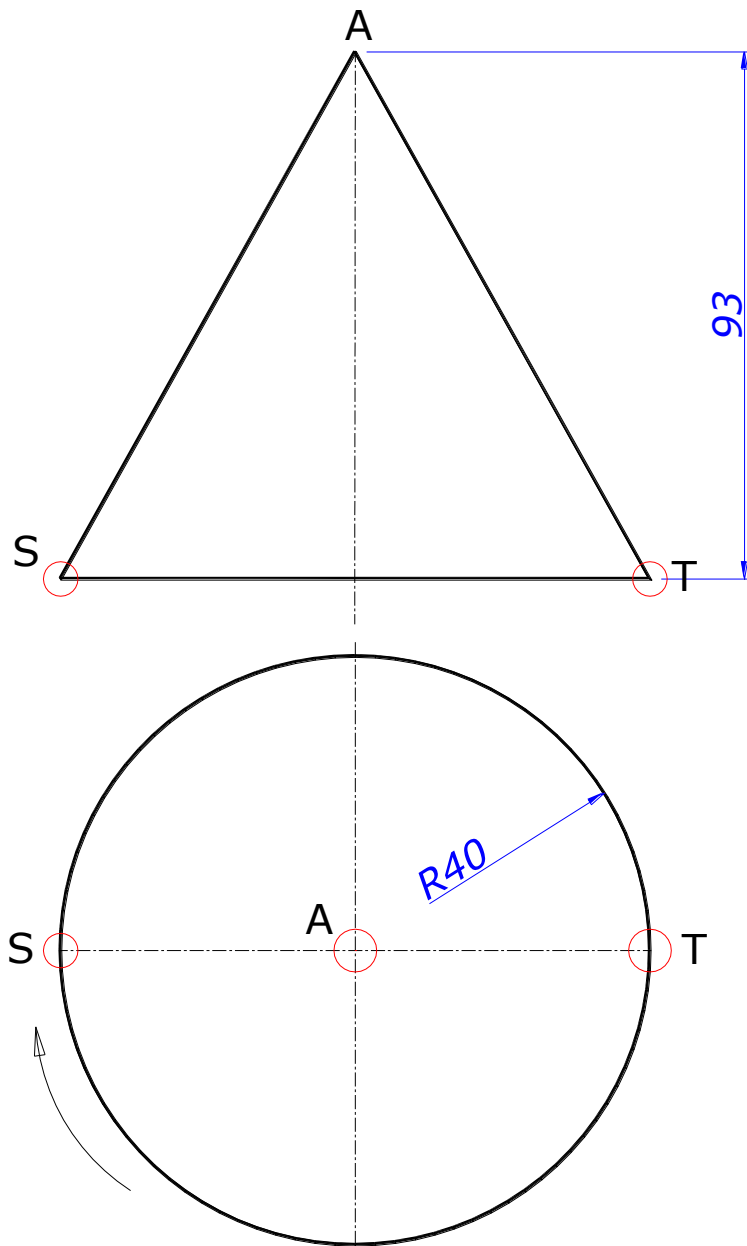
$$NM = 65\text{mm}$$

$$MR = 130\text{mm}$$

$$RT = RS = 75\text{mm}$$



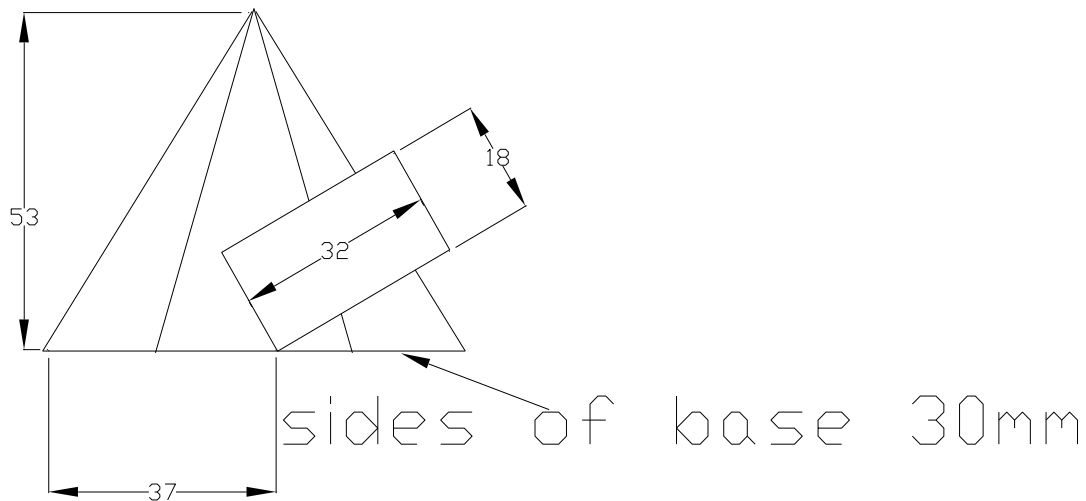
4. Figure below shows a cone rotating in a clockwise direction with point S and T moving at a constant speed to Point A in one revolution. plot the path followed by point T and S on the surface of the cone on both the front elevation and the plan



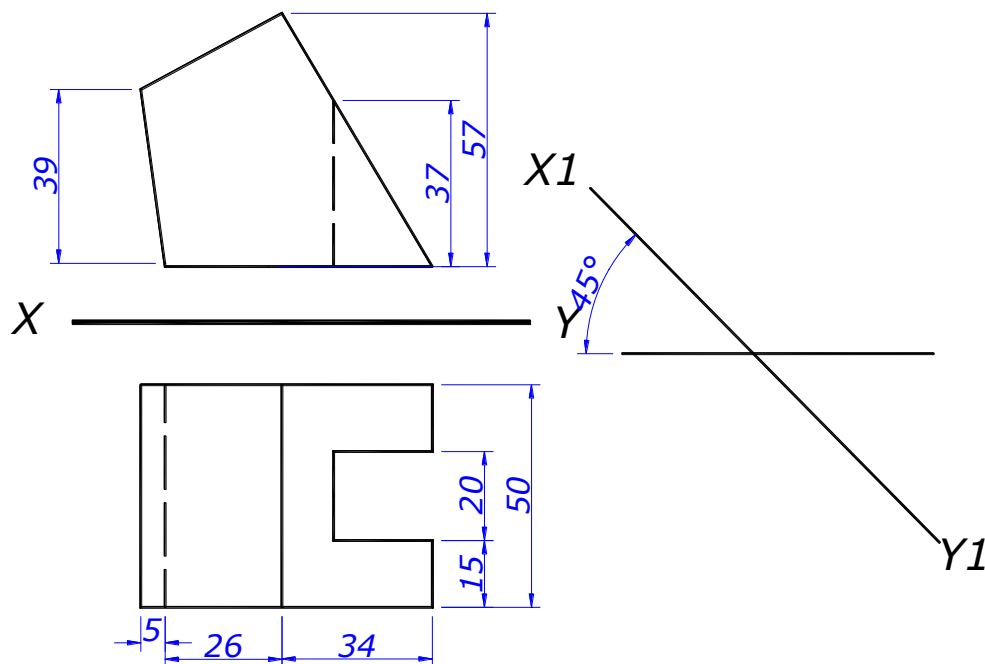
SECTION B (SOLID GEOMETRY)

5. The fig bellow shows the elevation of a hexagonal based pyramid being interpenetrated by a rectangular based prism.

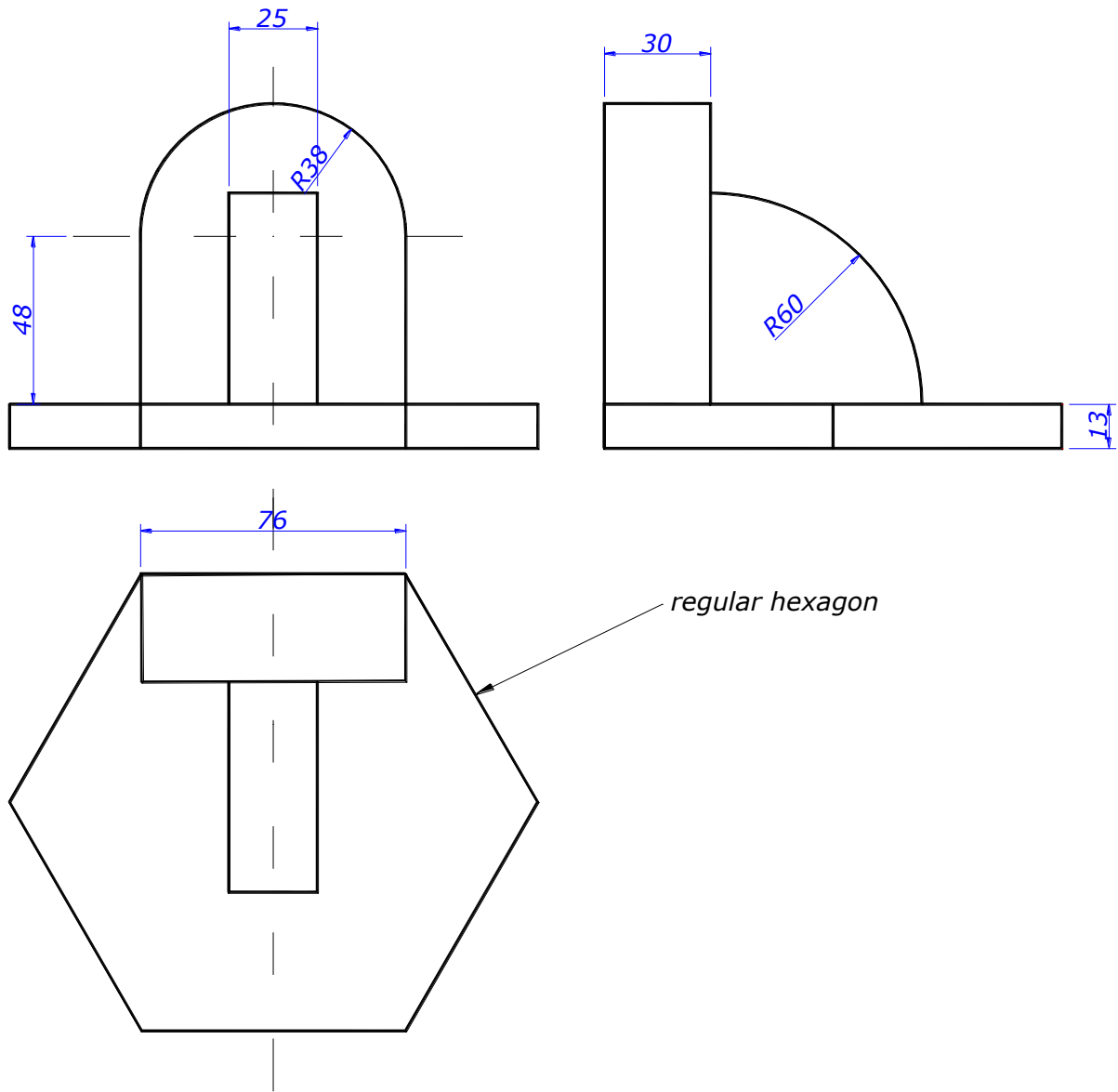
- Construct the given front elevation and the plan showing clearly the lines of interpenetration.
- Construct the development of the pyramid after interpenetration.



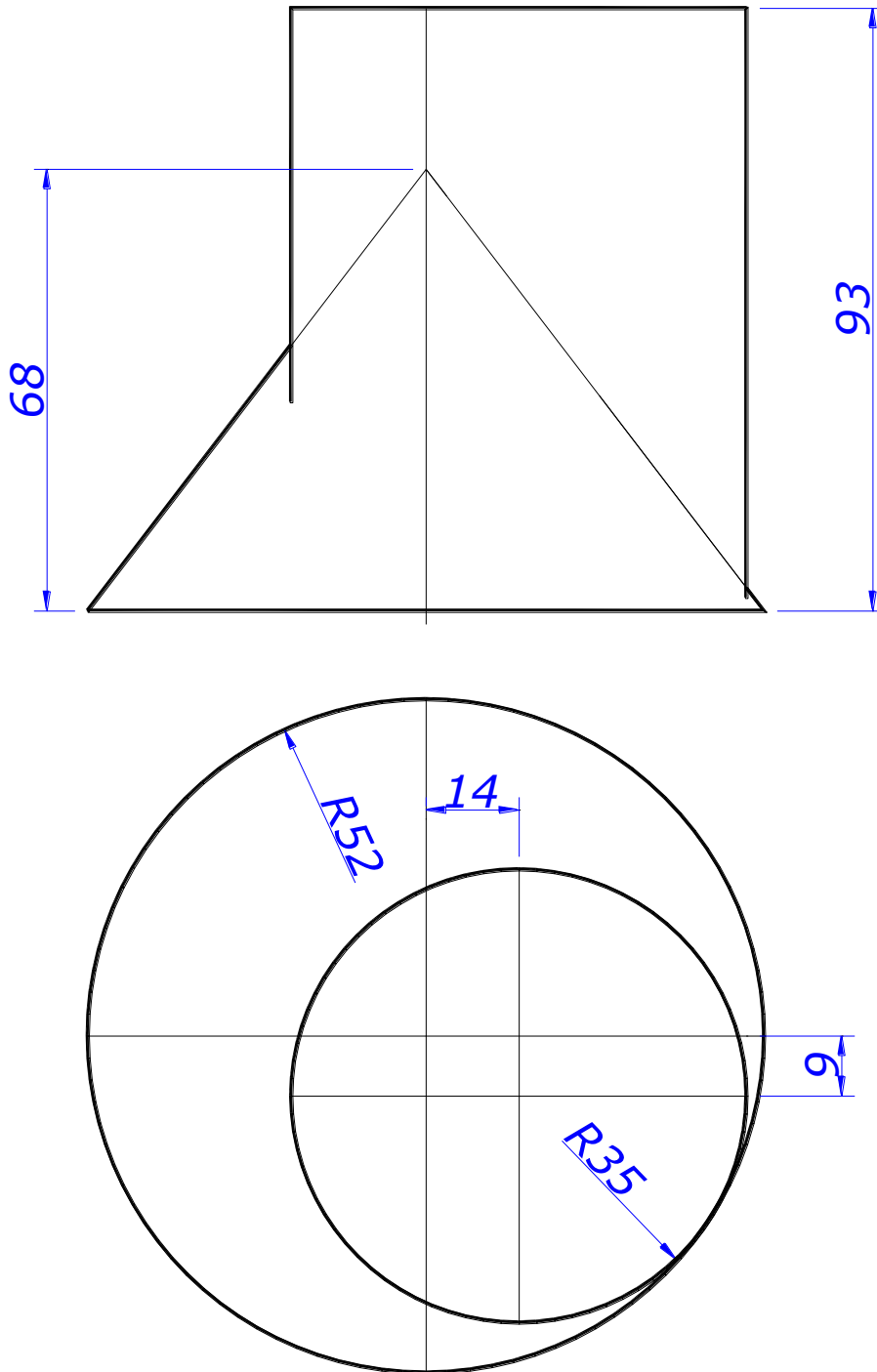
6. Figure below shows a block; construct its auxiliary front elevation on X_1-Y_1 .



7. Figure below shows a block in orthographic projection, reconstruct it in isometric projection.



8. The figure below shows a cylinder and a cone in interpenetration.
- Show the curve of interpenetration.
 - Development of the cylinder after interpenetration.



END