CONSTRUCTING ANGLES OF 90°, 45° and 22.5°

To construct or build an angle of 90°, we construct a perpendicular from a point which is located on a line segment.

CONSTRUCTION 90°
First draw a line segment EF of line L. Release your compasses to an appropriate separation. Using E as centre, construct an arc to intersect the line L at M and N. Then release your compasses to more than half the distance of MN. Using M and N as centres, construct two arcs to intersect above the line L at O. Now draw a straight line passing through the point E and O. We have finally constructed angle FEO of size 90°.

CONSTRUCTION 45°
To construct an angle of 45°, we now bisect the angle of size 90°. Using T and N as centres, bisect angle FEO=90°. Then angle FEG is our angle of size 45°.

CONSTRUCTION 22.5°
To construct an angle of 22.5°, we now bisect the angle of size 45°. Using S and N as centres, bisect angle FEG=45°. Then angle FEU is our angle of size 22.5°.

Look at construction below