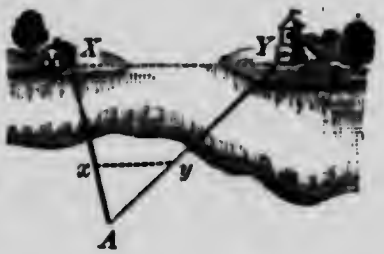
1. From any point A, to find the distance between two inaccessible points, X, Y: How can the distances AX and AY be found? How can you place the points x and y so that $Ax : AX = Ay : AY$? Why is xy parallel to XY? What two similar triangles? How can XY be found?

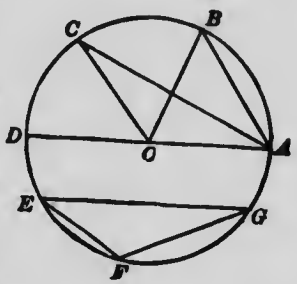


2. If AX is found to be 120 ft. and AY 170 ft., and if Ax is $\frac{1}{10}$ of AX and Ay is $\frac{1}{10}$ of AY, what is the distance xy? What is the distance XY?

3. Make similar problems from actual measurements in a field.

4. Draw a circle. Point out the centre. Observe the distance between the centre and all points of the boundary. Define *circle.*

5. Point out and define: *circumference; diameter; radius; arc; chord; segment; sector; semi-circle.*



6. Draw a circle divided into 4 parts. Each part is a quadrant. Define *quadrant.*

7. Draw a circle divided into 6 parts. Each part is a sextant. Define *sextant.*

8. Draw a circle with a given radius; with a given diameter. Draw a sector with an angle at the centre of 45°. What is the corresponding arc? Draw a sector with an angle at the centre of 80°; of 100°; of 180°. What are the corresponding arcs and segments?

9. Draw a circle. Draw a chord subtending an angle of 60° at the centre. From the centre draw a line perpendicular to this chord. Can you show that the perpendicular line bisects the chord and the arc subtended by it? Can you show that every diameter perpendicular to a chord bisects the chord and also the arcs subtended by it?

10. Can you show that a perpendicular erected at the middle of a chord passes through the centre of the circle?

11. Can you find the centre of a given circle?

12. Can you find the centre of a given arc?