

### Exercise 5

1. In the given mechanism below, the crank OA rotates clockwise about O. The link AB is attached to a rod CB which oscillates about C. Construct the locus of P given that OA is 45 cm, AB is 180 cm, CB is 75 cm and BP is 90 cm. Choose an appropriate scale

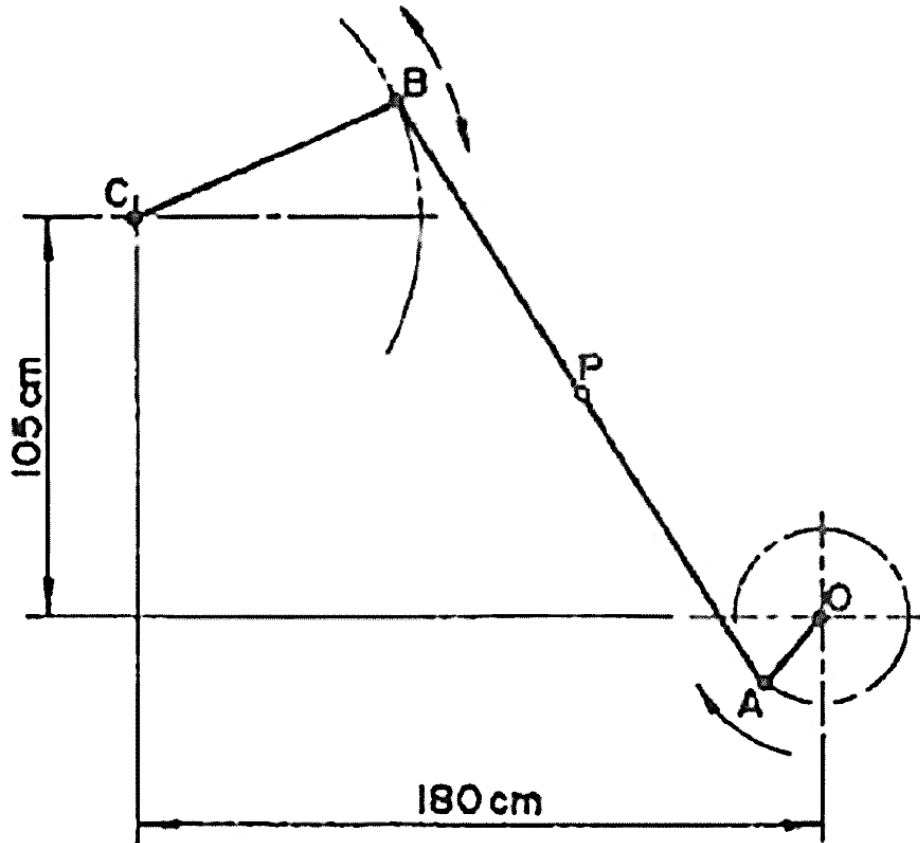


Figure 1

2. Determine the loci of the ends P and Q of the rod given in Figure below. In the mechanism, crank OA rotates about O and carries with it a rod PQ 120 mm pin-jointed to the crank at A. the rod is constrained to pass through a fixed-point C.

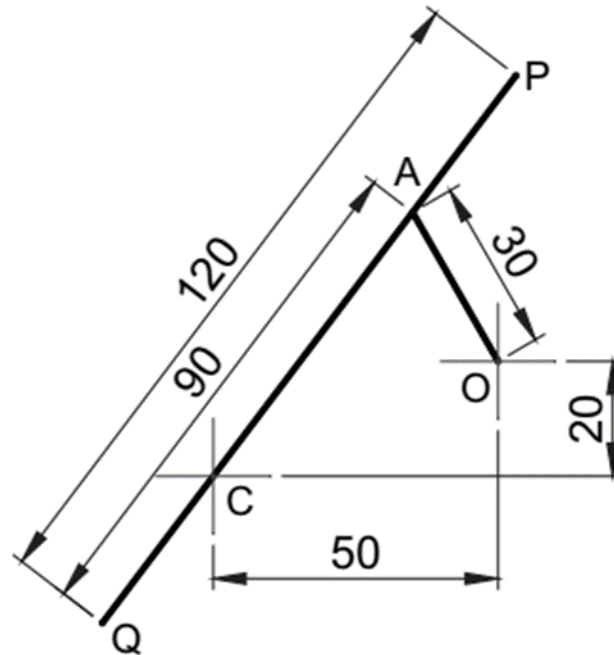


Figure 2

3. In the mechanism below, crank OA rotates clockwise about O. The end B of the link AB moves along axis PQ. The rod FD swings about F. Draw the locus of point E for one revolution of OA. Given:  $OA = 40\text{mm}$ ,  $AB = 150\text{mm}$ ,  $BC = 65\text{mm}$ ,  $CD = 130\text{mm}$ ,  $DE = DF = 75\text{ mm}$

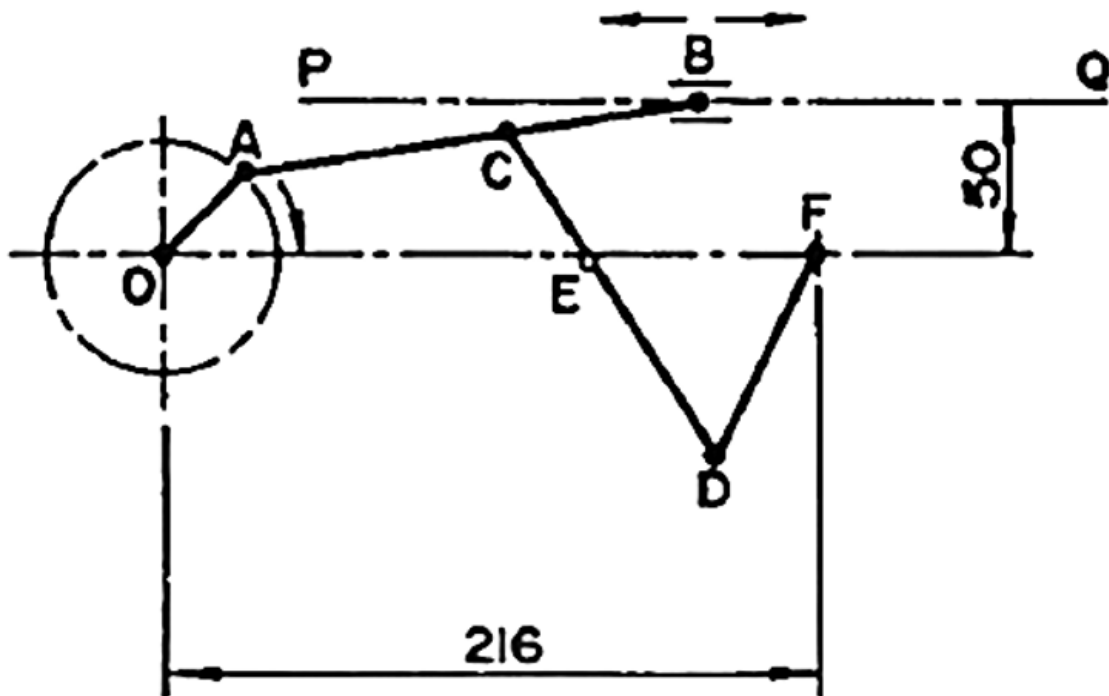


Figure 3