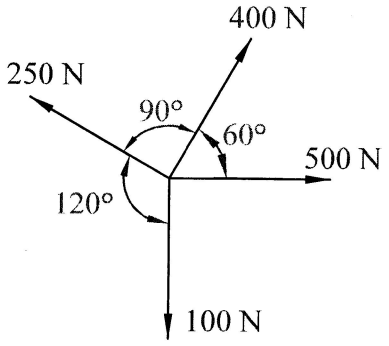
NATIONAL INSTITUTE OF TECHNOLOGY DURGAPUR
Graphical Analysis using CAD
XES 52 Sessional, 2018-19

Problems for manual solution - 3, 6, 7, 8, 10, 12, 13, 14

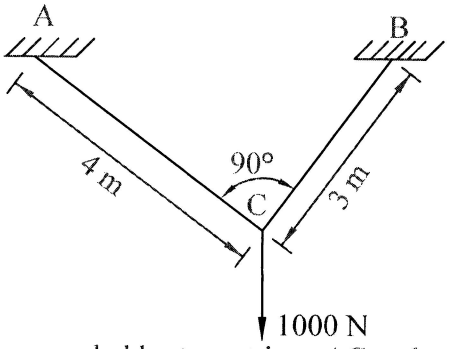
Problems to be solved using AutoCAD - 4, 6, 9

1



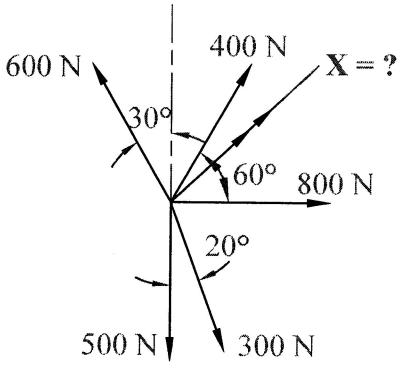
Find the Resultant for the Concurrent Force System.

2



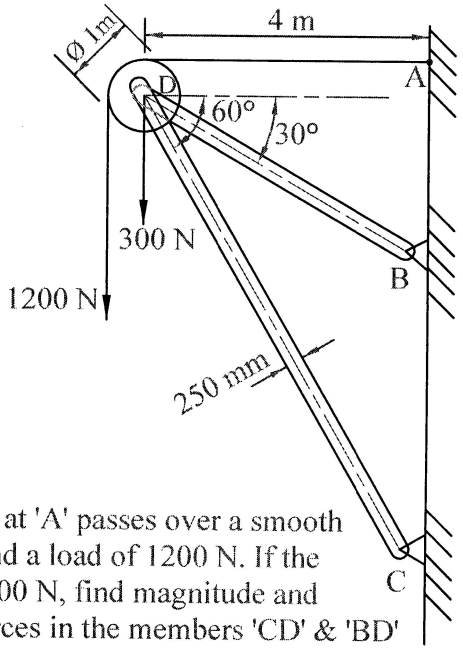
A load 1000 N is suspended by two strings AC and BC (A and B being at same horizontal level). Find the tensions in the strings.

3



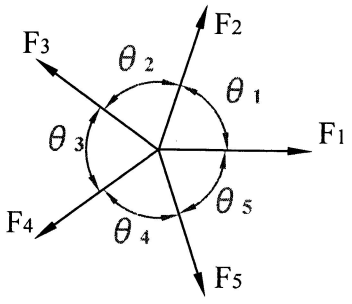
The concurrent force sustem is in equilibrium. Find the equilibrant 'X' completely.

4



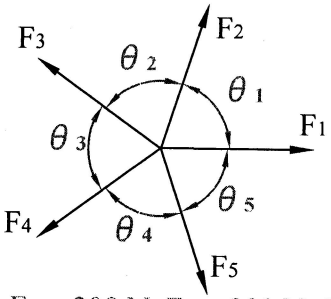
A rope attached at 'A' passes over a smooth pulley to suspend a load of 1200 N. If the pulley weighs 300 N, find magnitude and nature of the forces in the members 'CD' & 'BD'

5



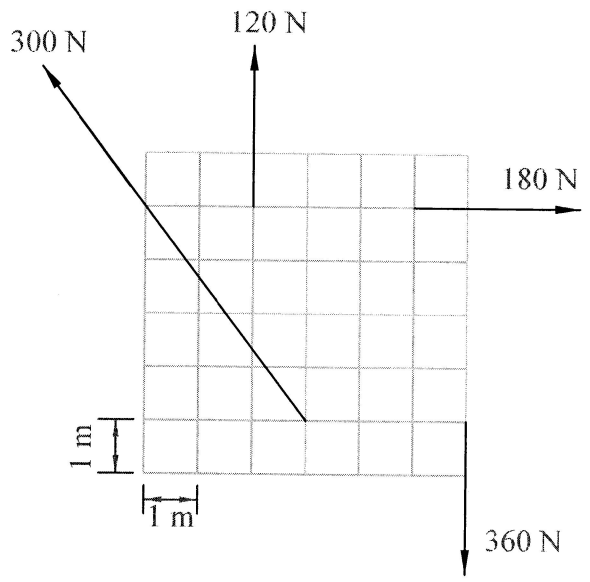
Given $F_1 = 400$ N, $F_2 = 300$ N, $F_3 = 250$ N,
$\theta_1 = \theta_2 = \theta_3 = \theta_4 = \theta_5 = 72°$
Determine F_4 and F_5

6



Given $F_1 = 500$ N, $F_2 = 300$ N, $F_3 = 300$ N, $F_4 = 200$ N, $F_5 = 200$ N, $\theta_2 = \theta_4 = 60°$
Determine θ_1, θ_3 **and** θ_5

7



Find the Resultant of the non-concurrent Forces.