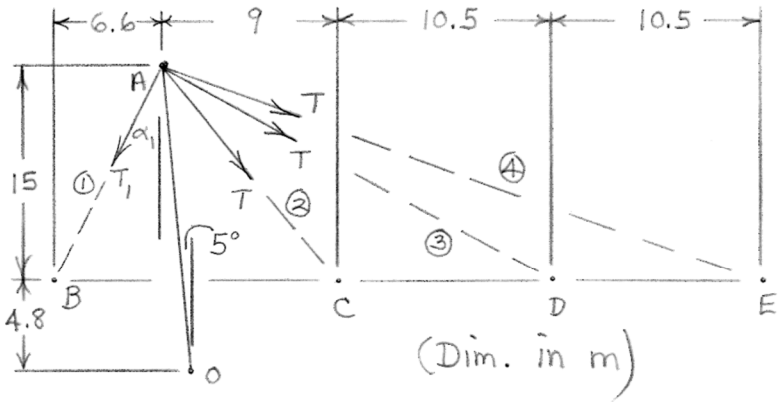
2/57



$\alpha_1 = \tan^{-1}\frac{6.6}{15} = 23.7°$; Similarly, $\alpha_2 = 31.0°$,

$\alpha_3 = 52.4°$, $\alpha_4 = 63.4°$ (all relative to vertical)

$\curvearrowleft + \Sigma M_O = 0$: $[T_1 \sin(\alpha_1 + 5°) - T\sin(\alpha_2 - 5°)$

$-T\sin(\alpha_3 - 5°) - T\sin(\alpha_4 - 5°)]\frac{15 + 4.8}{\cos 5°} = 0$

$T_1 = 4.21T$

$+\downarrow \Sigma F = P = T_1\cos(\alpha_1 + 5°) + T[\cos(\alpha_2 - 5°)$

$+ \cos(\alpha_3 - 5°) + \cos(\alpha_4 - 5°)$

or $\underline{P = 5.79T}$ (with $T_1 = 4.21T$)