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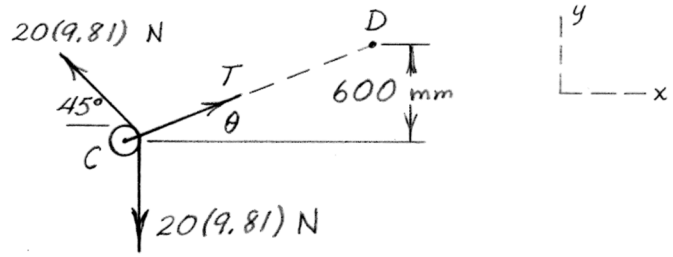

$\Sigma F_x = 0$: $T\cos\theta - 20(9.81)\cos 45° = 0$

$\Sigma F_y = 0$: $T\sin\theta + 20(9.81)\sin 45° - 20(9.81) = 0$

Solve to obtain $\theta = 22.5°$, $\underline{T = 150.2 \text{ N}}$

$\frac{600}{\overline{CD}} = \sin\theta = \sin 22.5°$, $\underline{\overline{CD} = 1568 \text{ mm}}$