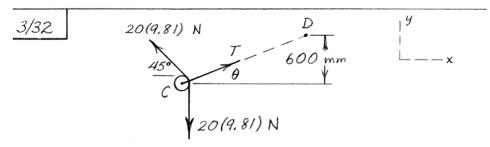
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$$\Sigma F_{x} = 0$$
: $T\cos\theta - 20(9.81)\cos 45^{\circ} = 0$
 $\Sigma F_{y} = 0$: $T\sin\theta + 20(9.81)\sin 45^{\circ} - 20(9.81) = 0$
Solve to obtain $\theta = 22.5^{\circ}$, $T = 150.2 \text{ N}$
 $\frac{600}{CD} = \sin\theta = \sin 22.5^{\circ}$, $\overline{CD} = 1568 \text{ mm}$

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