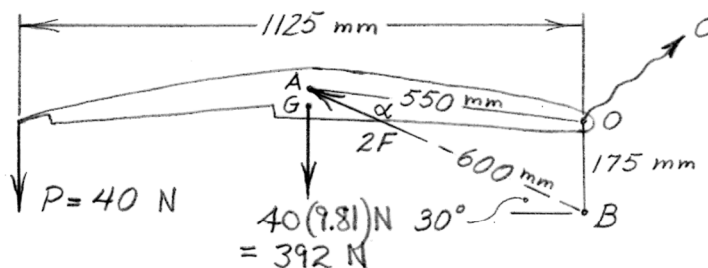


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$$\text{Law of cosines: } 175^2 = 550^2 + 600^2 - 2(550)(600) \cos \alpha$$

$$\alpha = 16.79^\circ$$

$$(\pm \sum M_O = 0: 40(1125) - 2F(550 \sin \alpha) + 392(550 \cos[30^\circ - \alpha]) = 0, \quad \underline{F = 803 \text{ N}}$$

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