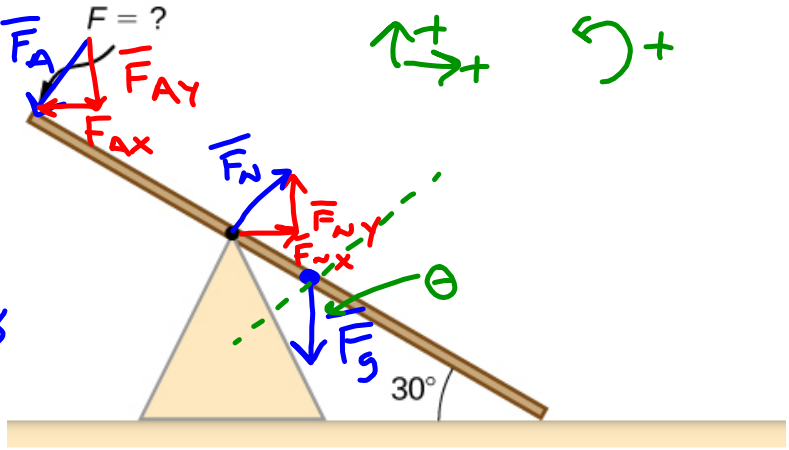
A seesaw has length 10.0 m and uniform mass 10.0 kg and is resting at an angle of with respect to the ground (see the following figure). The pivot is located at 6.0 m. What magnitude of force needs to be applied perpendicular to the seesaw at the raised end so as to allow the seesaw to barely start to rotate?



$$\sum \vec{F} = \emptyset$$

$$-F_{Ay} + F_{Ny} - F_g = \emptyset$$

$$\sum \vec{\tau} = \emptyset$$

$$\vec{\tau} = \vec{r} \times \vec{F}$$

$$-r_g F_g \sin(60°) + (\emptyset) F_N + r_A F_A = \emptyset$$

$$r_A F_A = r_g F_g \sin(60°)$$

$$F_A = \frac{r_g F_g \sin(60°)}{r_A}$$

$$= \frac{(1\,m)(9.8\,m/s^2)\sin(60°)}{4\,m}$$

$$= 21.2\ N$$