\[
tan \theta = \frac{8}{400} \\
\theta = \tan^{-1} \left( \frac{1}{50} \right) \\
\sim 0.02 \text{ radians}
\]

Now
\[
F \begin{pmatrix} \cos \theta, \sin \theta \end{pmatrix} + F \begin{pmatrix} -\cos \theta, -\sin \theta \end{pmatrix} = \begin{pmatrix} 0, -0.8 \end{pmatrix}
\]
\[ |\vec{a} \times \vec{b}| = |\vec{a}| |\vec{b}| \sin \theta \]

so \[ |\vec{a}| |\vec{b}| \Leftrightarrow |\vec{a} \times \vec{b}| \]

**Some things cool**

\[ \hat{a} \cdot (\hat{b} \times \hat{c}) \]

Volume = area of base \times height \[ |\hat{c} \times \hat{b}| \cdot |\hat{a}| \cos \theta \]

where \( \theta \) is the angle between \( \hat{a} \) and \( \hat{b} \times \hat{c} \)

\[ |\hat{a}| |\hat{b}| |\hat{c}| \cos \theta \]

Scalar triple product gives the volume of the parallelepiped formed by the three vectors.