$F_z = F \cdot \sin\gamma$

$\sin\gamma = \frac{9}{17}$

$F_z = 170 \cdot \frac{9}{17} = 90$

$F_x = F \cdot \cos\gamma \cdot \cos\beta$

$\cos\beta = \frac{8}{14{,}422}$

$F_x = 170 \cdot \frac{8}{17} \cdot \frac{14{,}422}{14{,}422} = 80$

$F_y = F \cdot \cos\gamma \cdot \sin\beta$

$\cos\gamma = \frac{14{,}422}{17}$

$\sin\beta = \frac{12}{14{,}422}$

$F_y = \cancel{170} \cdot \frac{\cancel{14{,}422}}{\cancel{17}} \cdot \frac{12}{\cancel{14{,}422}}$

$F_y = 120$

$\beta = 56{,}31^\circ$

$\gamma = 31{,}9657^\circ$

$OQ: \; 3\hat{i} - 4\hat{j} + 12\hat{k}$

$\hat{e}_{OQ} = \frac{3\hat{i} - 4\hat{j} + 12\hat{k}}{\sqrt{9+16+144}} = \frac{3}{13}\hat{i} - \frac{4}{13}\hat{j} + \frac{12}{13}\hat{k}$

[redacted]

$\hat{e}_F = \frac{8\hat{i} + 12\hat{j} + 9\hat{k}}{\sqrt{289}} = \frac{8}{17} i + \frac{12}{17}\hat{j} + \frac{9}{17}\hat{k}$

[redacted]

$d = OF = 17$

$d = \sqrt{64 + 144 + 81}$

Check:

$F_y = F(y/d) \Rightarrow F_y = 170 \cdot \frac{12}{17} = 120$