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 $\frac{2}{15}$

a)
$$F = 500 \text{ N}$$
, $0 = 60^{\circ}$, $\phi = 20^{\circ}$

$$\begin{cases} F_n = -500 \cos(60^{\circ} + 20^{\circ}) \longrightarrow F_n = -86.8 \text{ N} \\ F_t = 500 \sin(60^{\circ} + 20^{\circ}) \longrightarrow F_t = 492 \text{ N} \end{cases}$$

b)
$$F = 800 \, \text{N}$$
, $\Theta = 45^{\circ}$, $\Phi = 150^{\circ}$

$$\left(F_{n} = -800 \cos \left(45^{\circ} + 150^{\circ}\right) \longrightarrow F_{n} = 773 \, \text{N}\right)$$

$$F_{t} = 800 \, \sin \left(45^{\circ} + 150^{\circ}\right) \longrightarrow F_{t} = -207 \, \text{N}$$