

$$\begin{array}{c} \longrightarrow \\ 20\text{ N} \end{array} + \begin{array}{c} \longleftarrow \\ 30\text{ N} \end{array} = \begin{array}{c} \longleftarrow \\ 10\text{ N} \end{array}$$

$$\begin{array}{c} \uparrow \\ 550\text{ N} \end{array} + \begin{array}{c} \downarrow \\ 500\text{ N} \end{array} = \begin{array}{c} \uparrow \\ 50\text{ N} \end{array}$$

THEN

$$\begin{array}{c} \uparrow \\ 50 \end{array} + \begin{array}{c} \longleftarrow \\ 10 \end{array} = \begin{array}{c} \nearrow \\ 10 \\ \searrow \\ 50 \end{array} = \sqrt{10^2 + 50^2} = \boxed{50.99}$$

$$\sum F_x = 0 = 40 \text{ N} + R_x = 0$$

$$R_x = -40 \text{ N}$$

$$\sum F_y = 0 = 10 \text{ N} - 200 \text{ N} + R_y = 0$$

$$R_y = 200 \text{ N} - 10 \text{ N} = 190 \text{ N}$$

$$F_R = \sqrt{190^2 + (-40^2)}$$

$$F_R = 194.16 \text{ N}$$

