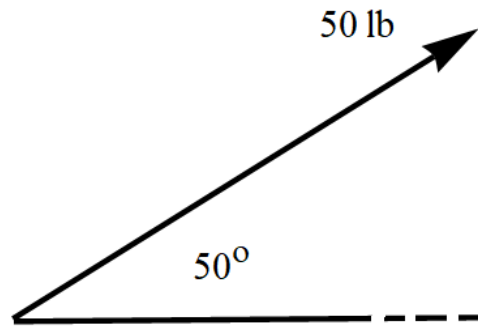


**Exercise 33**

A force of 50 lb is directed  $50^\circ$  above horizontal, pointing to the right. Determine its horizontal and vertical components. Display all results in a figure.

**Solution**

Let  $F_x$  and  $F_y$  be the horizontal and vertical components of the force, respectively. Then

$$\cos 50^\circ = \frac{F_x}{50}$$
$$\sin 50^\circ = \frac{F_y}{50}.$$

Solve for the components.

$$F_x = 50 \cos 50^\circ \approx 32.1 \text{ lb}$$

$$F_y = 50 \sin 50^\circ \approx 38.3 \text{ lb}$$

