5N $\xrightarrow{\hspace{2cm}}$ — $\xrightarrow{\hspace{2cm}}$ 6N

5N $\xrightarrow{\hspace{2cm}}$ + $\xleftarrow{\hspace{2cm}}$ 6N

IN

$$\cos = \frac{A}{H}$$

10.N

$\theta = 30°$ y_1

x_1

$\cos H = A$

$+$

$60°$

θ

y 20.N

2

x_2
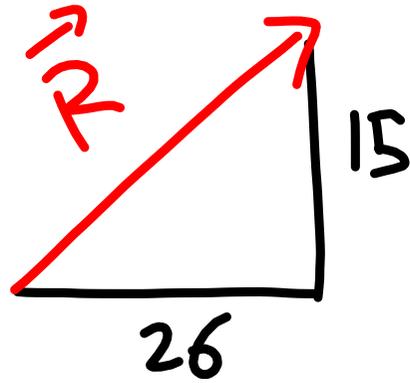
$$X_1 = 10 \cos(30)$$
$$X_2 = 20 \sin(60)$$
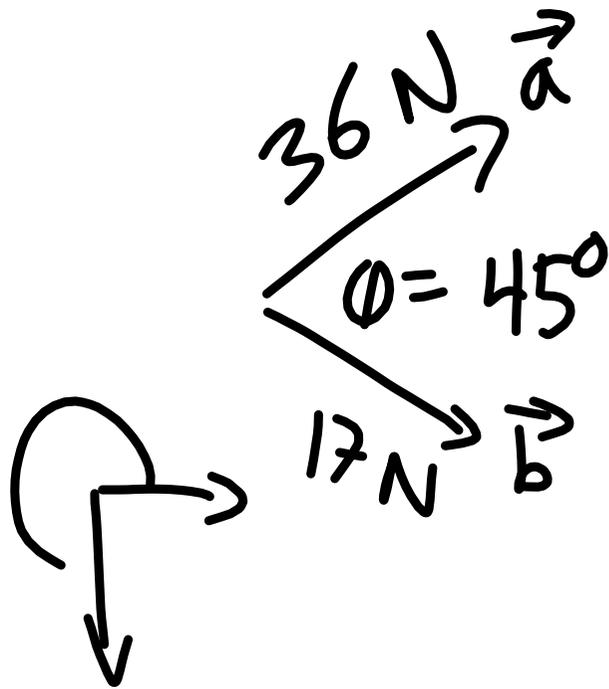$$+$$
_____

$$Y_1 = 10 \sin(30)$$
$$Y_2 = 20 \cos(60)$$
$$+$$
_____

$\left.\begin{array}{c} 8.66 \\ 17.32 \end{array}\right\}$ $25.98 \approx$ 26

$\left.\begin{array}{c} 5 \\ 10 \end{array}\right\}$ 15

The diagram shows a right triangle with the hypotenuse labeled $\vec{R}$, the vertical side labeled 15, and the horizontal base labeled 26.

$$\vec{R} = 26\,\hat{\imath} + 15\,\hat{\jmath} \text{ M}$$

$36 \text{ N} \vec{a}$

$\phi = 45°$

$17 \text{ N} \vec{b}$

$$\vec{a} \cdot \vec{b} = |36||17| \cos 45°$$

$$= 432.75 \approx$$

$$430 \text{ N}^2$$

$$\vec{a} = 3\hat{i} + 4\hat{j}$$

$$\vec{b} = -7\hat{i} + 6\hat{j}$$

$$\vec{a} \cdot \vec{b} = [(3)(-7)] + [(4)(6)]$$

$$-21 + 24 = 3 \text{ kg}^2$$

10. N

$\phi = 10°$

15 m
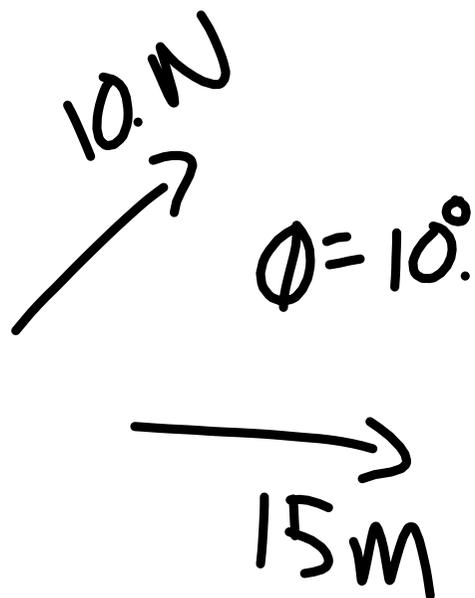
$\vec{a} \times \vec{b} = |10||15| \sin 10°$

$= 26.04$

$\approx 26 \, N \cdot m$

$\vec{a} \times \vec{b} = |a||b| \sin \theta$

4.399×10^{6} $400,000$

4.909 $4,909$ 4030

$$4.98 \times 3.447 = 17.16606$$
$$\approx 17.2$$