

Homework Quiz # 2

50  
50

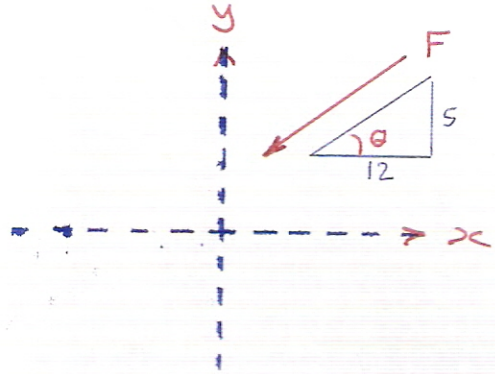
الاسم:  
الرقم:  
الشعبة:

Q#1: The Slope of the 50 N force F is specified as Shown in the figure. Express F as a vector in terms of the unit vectors i and j.

$$\theta = \tan^{-1}\left(\frac{5}{12}\right)$$

$$\theta = 22.62^\circ$$

10



$$F_x = -F \cos \theta$$

$$= -50 \cos 22.62$$

$$F_x = -46.15 \text{ N}$$

15

$$F_y = -F \sin \theta$$

$$= -50 \sin 22.62$$

$$F_y = -19.23 \text{ N}$$

15

$$\vec{F} = -46.15 \vec{i} - 19.23 \vec{j} \text{ N}$$

15