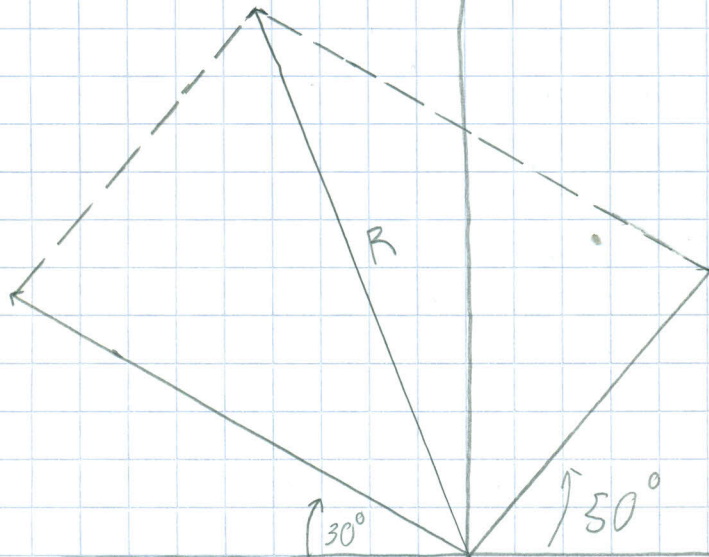


Bruce M



Equilibrant

Math on back

1 block = .5 N
1 block = .5 cm

Math

$$F_{1x} = 3.43\text{N} \cdot \cos 30 = 2.97\text{N}$$

$$F_{1y} = 3.43\text{N} \cdot \sin 30 = 1.715\text{N}$$

$$F_{2x} = 2.95 \cos 130 = -1.57\text{N}$$

$$F_{2y} = 2.95 \sin 130 = 1.88\text{N}$$

$$\Sigma F_x = 2.97\text{N} - 1.57\text{N} = 1.4\text{N}$$

$$\Sigma F_y = 1.715\text{N} + 1.88\text{N} = 3.595\text{N}$$

$$F = \sqrt{(1.4\text{N})^2 + (3.595\text{N})^2} = 3.86\text{N}$$

$$\theta = \tan^{-1} \frac{3.595\text{N}}{1.4\text{N}} = 68.7^\circ$$

Percent Error

$$F_1 [(3.969 - 3.86) / 3.86] \times 100 = 2.8\%$$

$$F_2 [(3.85 - 3.86) / 3.86] \times 100 = .26\%$$