

Vector Analysis

Solve the following vector problems using ΣX , ΣY and solve it graphically!

1. $F_1 = 16\text{N}$ at $20.^\circ$
 $F_2 = 45\text{ N}$ at $110.^\circ$
 $R = ?$

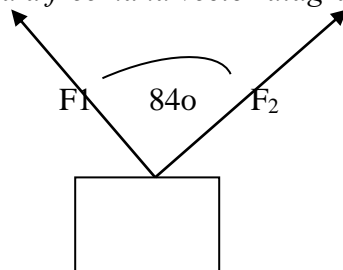
2. $a_1 = 3.4\text{ m/s}^2$ at 6.0°
 $a_2 = 2.1\text{ m/s}^2$ at 276°
 $R = ?$

3. $R = 16\text{ N}$ at 12°
 $F_x = ?$
 $F_y = ?$

4. $R = 145\text{ km/hr}$ at 119°
 $V_x = ?$
 $V_y = ?$

Draw a point diagram and a free hand vector diagram: You don't have to solve it!...yet!

5. $F_w = 240\text{ N}$
 $F_1 = ?$
 $F_2 = ?$



6. Find F_N and F_p if a 23 kg box is on a ramp that is 5.0 m long and 2.0 m high.