Route A

End

Start

GPS check-point

Five Sisters Cove

MM 6
MM 7
MM 5
MM 4
MM 3
MM 2
MM 11
MM 9
MM 1

Curry He Mountain 3012 ft

Curry She Mountain 5:2 ft

Lumber Ridge

Walker Valley

Buckhorn Gap

Upper Buckhorn Gap

Curry Gap

4° D
S 45° E

N 45° S 73°

C

233 Ft
45°
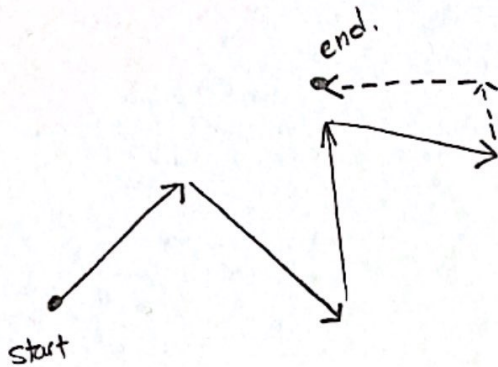NE
A

L°
SE
B
2875 Ft

2333

Problem Statement:

what are components of

vectors A - D.

Represent the Problem:

start

Organize Information (Equations, Conversions, Knowns, Unknowns, Assumptions):

$$Fx = |F|\cos\theta \qquad |F| = \sqrt{(x)^2 + (y)^2}$$

$$Fy \; |F|\sin\theta \qquad \theta = \tan^{-1} y/x$$

Vector A : 2337 ft, 45° N of E

Vector B : 2875 ft, 23° S of E

Vector C : 3250 ft, 73° W of W

Vector D : 2235 ft, 4° S of E

$$Dx = 2000\,ft\,w \qquad Dy = 1000\,ft\,N.$$

Calculations: (Box your solutions when completed)

Vector A : $x_{com} = 2337\cos(45) = 1652$ ft

$y_{com} = 2337\sin(45) = 1652$ ft

Vector B = $x_{com} = 2875\cos(23) = 2646$ ft

$y_{com} = 2875\sin(23) = 1123$ ft

Vector C = $x_{com} = 3250\cos(73) = 950$ ft

$y_{com} = 3250\sin(73) = 3107$ ft

Vector D $z_{com} = 2235\cos(4) = 2224$ ft

$y_{com} = 2235\sin(4) = 155$ ft.

Vector E

$$Mag = \sqrt{(2000)^2 + (1000)^2} = 2236 \text{ ft.}$$

$$\text{angle } \theta = \tan^{-1}\left(1000/2000\right) = 26°\ S\ of\ E$$

total distance traveled = 13697 ft.

Evaluate Solution:

___ My units are consistent and cancel throughout the calculations

___ My equations are appropriate for the physical system being evaluated

___ My answer is reasonable given the magnitude of the values in the problem.

___ My final solution answers the problem statement.

___ My final solution is in the appropriate form (vector or scalar)