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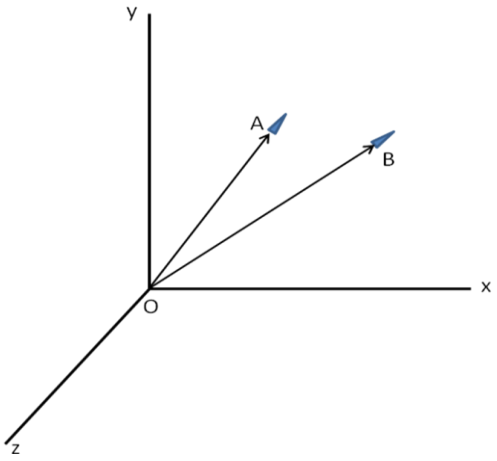
NAME:_____Student #_____ GROUP:_____

ENG 1440 Assignment #10

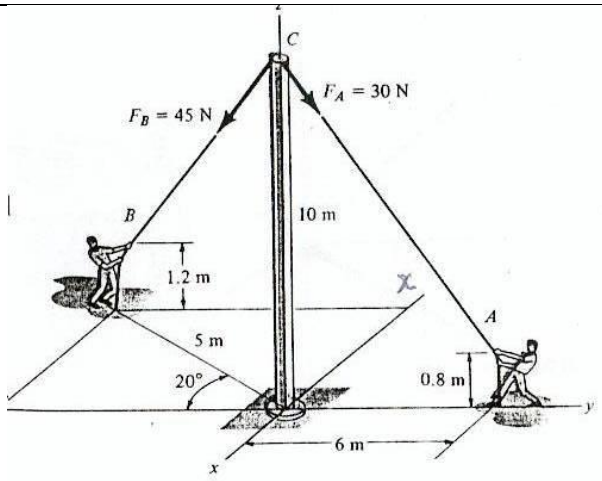
1. Two missiles were fired from a launch pad located at O. Find the distance between the two missiles when missile A is 2 km from launch pad and missile B is 4 km from the pad.



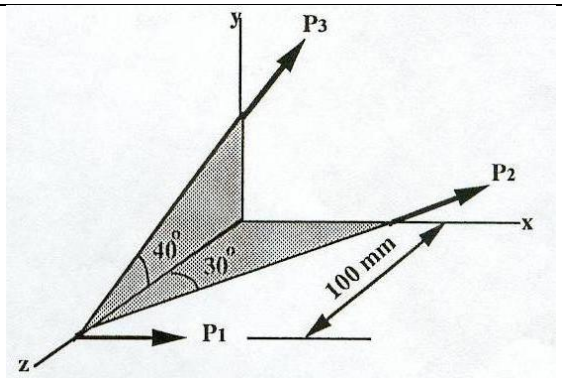
For Vector **OA**
$\cos\theta_x = 0.7680$
$\cos\theta_y = 0.3840$
$\cos\theta_z = 0.5120$

For vector **OB**
$\cos\theta_x = 0.7430$
$\cos\theta_x = 0.5570$
$\cos\theta_x = -0.3710$

2. Two boys pull on the pole with forces shown. Represent each force as a vector and then determine the magnitude and direction angles of the resultant.



3. Determine the magnitude of the three forces $\mathbf{P_1}$, $\mathbf{P_2}$, $\mathbf{P_3}$, given that their resultant force is $\mathbf{R} = 80\mathbf{i} + 40\mathbf{j} - 90\mathbf{k}$



Bonus

A pole of length 4m, shown in Fig. 1, is held in place by three cables attached to a wall at points A, B, and C. The forces in the cables are as follows: $F_1 = 350$ N, $F_2 = 250$N, $F_3 = 300$N. Determine the location of point A so that the resultant force exerted on the pole is directed along its axis; i.e., along D0.

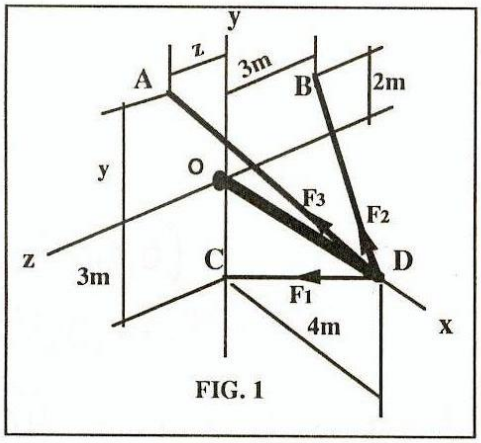


FIG. 1