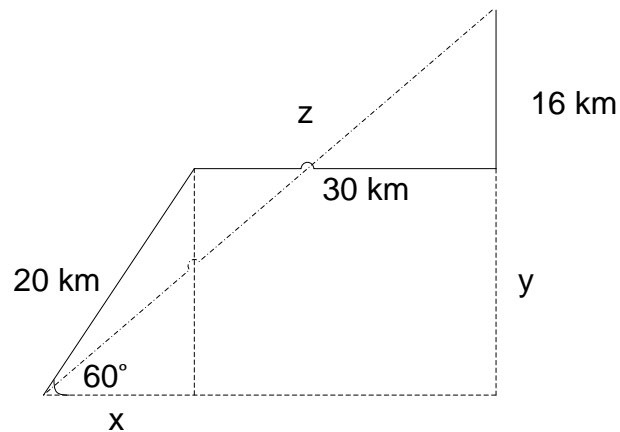


Answer on question #84622, Physics / Mechanics | Relativity

An airplane flies 20km in a direction 60 degree north of east then 30 km straight east and then 16km straight north .How far and what direction is the plane from the stating point?

Solution



$$\frac{x}{20} = \cos 60^\circ \quad x = 20 \cdot 0.5 = 10$$

$$\frac{y}{20} = \sin 60^\circ \quad ny = \frac{\sqrt{3}}{2} \cdot 20 = 17.32$$

$$z = \sqrt{(x + 30)^2 + (16 + y)^2} = 52.06$$

$$\cos \alpha = \frac{x + 30}{z} = \frac{40}{52.06} = 0.768$$

$$\alpha = 39.8^\circ$$

Answer: $z = 52.06$; $\alpha = 39.8^\circ$

Answer provided by <https://www.AssignmentExpert.com>