

Vector Addition - Cross Wind (Plane)

A 42 km/h wind blows toward 215 degrees while a plane heads at 125 degrees. What is the resultant velocity of the plane?

$V_w = 42 \text{ km/h} @ 215^\circ$
 $+ V_p = 152 \text{ km/h} @ 125^\circ$
 $= V_R = 157 \text{ km/h} @ 215 - 75 = 140^\circ$

$\tan \theta = \frac{152}{42}$
 $\theta = 75^\circ$

$V_R^2 = 42^2 + 152^2$
 $V_R = 157 \text{ km/h}$

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