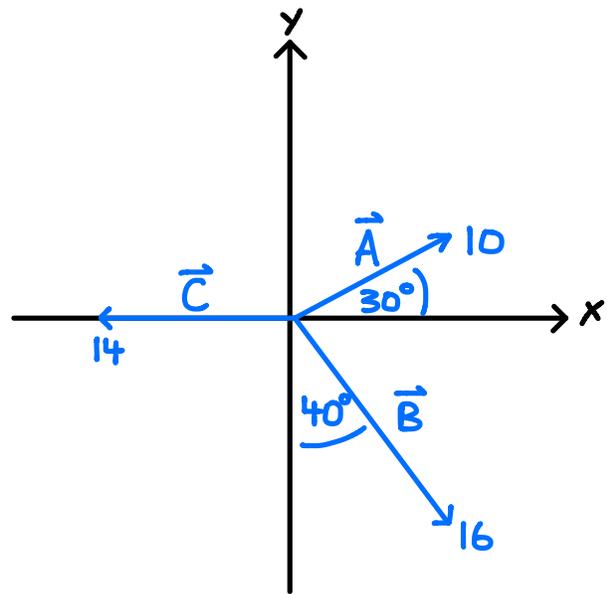
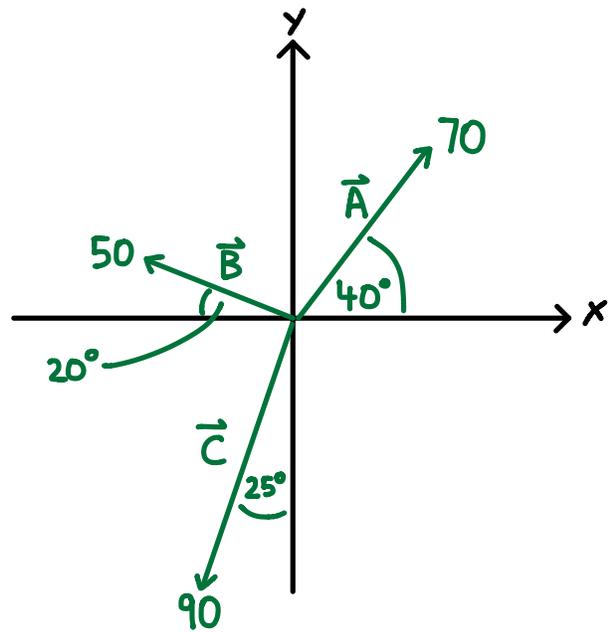


Determine $\mathbf{A} + \mathbf{B} + \mathbf{C}$



8.78 34° E of S

Determine $\mathbf{A} + \mathbf{B} + \mathbf{C}$



36.9 31.8° S of W

A plane has an air speed of 880 km/h and heads 40 degrees west of south. Wind blows from the west at 80 km/h. What is the groundspeed of the plane? Direction?

831 $\frac{\text{km}}{\text{h}}$ 35.8° W of S

Alice and Bob are initially at the same position. Alice walks east at 1 m/s while Bob runs 40 degrees south of west at 6 m/s. How far apart are Alice and Bob after 10 s?

68.0 m

A plane has an airspeed of 600 km per hour. A 70 km per hour wind blows east.

a) In what direction must a pilot aim their plane in order to arrive at a destination directly to the south?

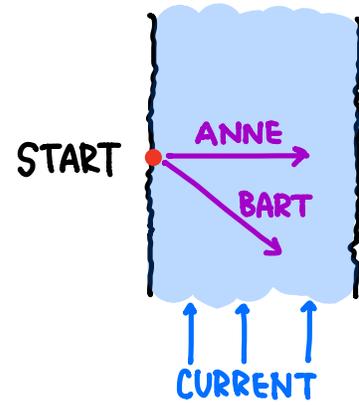
b) If the destination is 400 km away, how many minutes will the trip take?

a) 6.7° W of S

b) 40 min

Anne and Bart swim across at equal speeds across a river. Bart aims such that his resultant velocity is straight across the river. Anne aims straight across.

a) Who reaches the shore first?



Anne and Bart swim can swim at a speed of 1.5 m/s in still water and the current is 1 m/s. The river is 10 m across.

b) How long does it take Bart to reach the shore?

c) How far downstream is Anne when she reaches the shore?

a) ANNE

b) 8.94 s

c) 6.67 m

A plane with an air speed of 700 km/h aims directly towards an airport 7000 km to the southwest. A 90 km/h wind blows 30 degrees north of east. After 10 hours, how far is the plane from the airport?

900. km