

# Vector diagrams

This task is about using vectors to describe motion and direction.

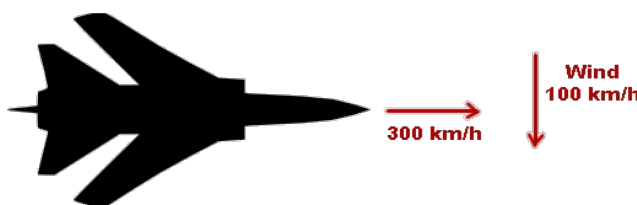


When Josh blew on a table tennis ball it travelled at 8 metres per second. When Lisa blew on the ball it travelled at 9 metres per second.

Josh and Lisa then blew on the same ball, at the same time, but from opposite directions.

What happened to the ball?

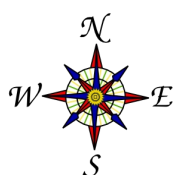
- |   |   |   |
|---|---|---|
| <input type="radio"/> It went away from Josh at 1 metre per second. | <input type="radio"/> It went away from Josh at 17 metres per second. | <input type="radio"/> It went towards Josh at 1 metre per second. |
| <input type="radio"/> It went towards Josh at 17 metres per second. | <input type="radio"/> It did not move.                                |   |



An aeroplane is flying east at 300 kilometres per hour. A strong wind is blowing from the north at 100 kilometres per hour.

Which vector diagram correctly shows the velocities of the plane and the wind, and the resulting velocity of the plane?

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| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
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Tiana was swimming in the moana at 30 metres per minute towards the west. A current of 40 metres per minute suddenly tried to pull her north.

Which vector diagram correctly shows the velocities of Tiana swimming and the current, and the resultant velocity Tiana travels?

- |                       |                       |                       |                       |                       |
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