

4. An airplane is travelling east at an airspeed of 150 m/s. A 30 m/s wind is blowing north. What is the velocity of the plane relative to the ground?
5. The captain of a ship aims his ship with a velocity of 25 m/s directly north across a river whose current flows at 8.0 m/s east. The river is 850 m wide. Calculate:
- the velocity of the ship relative to the shore.
 - the time that it takes the ship to cross the river.
 - how far downstream the ship ends up when it reaches the other side.



6. The captain of a ship wants to go directly South across a river at 15 m/s but there is a current in the river of 5.0 m/s East. With what velocity (including direction) must the captain aim the ship?

7. The pilot of an airplane wants to go directly South at 130 m/s, however a wind is blowing to the West at 20 m/s. With what velocity (including direction) does the pilot need to aim the airplane?



8. The captain of a ship wants to go directly North at a speed of 35 m/s, but there is a current to the East. The speed of the boat without the current would be 50 m/s. What is the speed of the wind?

9. A pilot of an airplane wants to directly west to Vancouver. There is a wind blowing to the South of 25 m/s. If the airspeed of the airplane is 100 m/s, with what speed does the plane actually travel?

