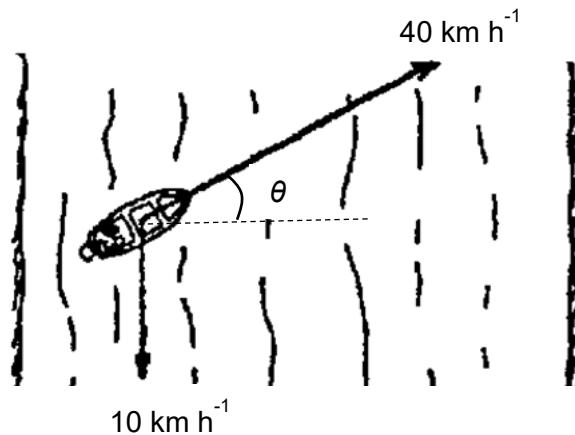


- 2 The diagram shows the top view of a motorboat crossing a river. The water current causes the motorboat to drift at a speed of 10 km h^{-1} downstream, along the length of the river.



If the engine drives the motorboat at a speed of 40 km h^{-1} relative to the water, what should the angle θ be in order for the motorboat to (a) take the shortest path to the opposite shore and (b) take the shortest time to reach the opposite shore?

- | | (a) | (b) |
|---|------------|------------|
| A | 14° | 14° |
| B | 14° | 0° |
| C | 0° | 14° |
| D | 0° | 0° |

