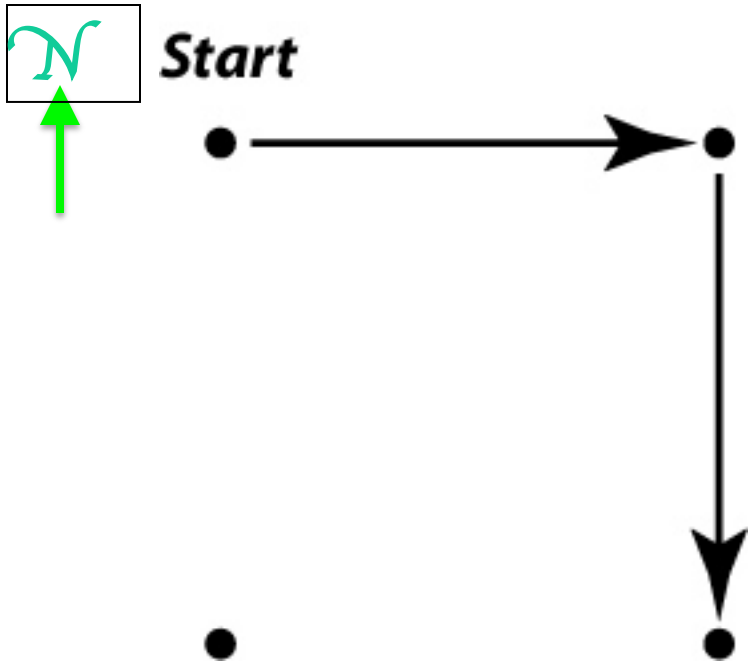
For one hour, you travel east in your car covering 100 km. Then travel south 100 km in 2 hours. You would tell your friends that your average speed was



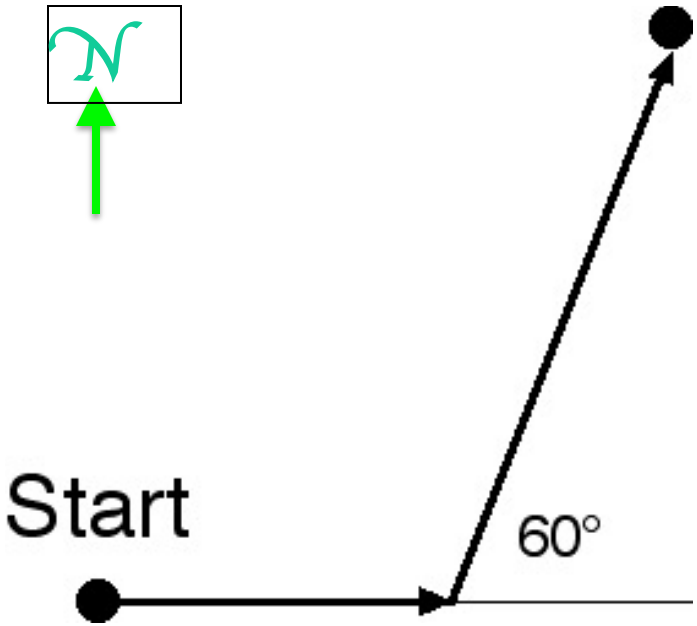
A. 47 km/hr
B. 67 km/hr
C. 75 km/hr
D. 141 km/hr
E. 200 km/hr

You fly east in an airplane for 100 km.

You then turn left 60 degrees and fly 200 km.

How far **north** of the starting point are you?

(approximately)



A. 100 km

B. 130 km

C. 170 km

D. 200 km

E. none of the above

The grand jeté

- We are going to build graphs by tracking the eye of a ballet dancer doing a *grand jeté* (big jump).
- Watch the video.

1. What do you think a graph of her position will look like? (x vs y)
2. What do you think a graph of her y-coordinate will look like? (y vs t)
3. What do you think a graph of her v-coordinate will look like? (x vs t)

The 1D velocity is defined as $v = \frac{dx}{dt}$
What is true about this velocity?

A. It is always positive.
B. It is only negative if x is negative.
C. It can be positive or negative but only for positive x.
D. It can be positive or negative for both positive and negative x.