

1. The British woman who won the NYC marathon this year, Paula Radcliffe, also holds the world marathon record, 2 h 15 m 25 s. The marathon distance is 42.195 km, or 26.2 miles. Determine her average speed in m/s AND minutes/mile of a runner achieving this record.
2. Runner A is initially 5.0 km west of a flagpole, and is running with a constant velocity of 3.5 km/h due east. Runner B is initially 4.0 km east of the flagpole and is running with a constant velocity of 2.5 km due west. Where are the runners in relation to the flagpole when their paths cross? Give a displacement in kilometers.

3. A tortoise can run with a speed of $.16 \text{ m/s}$, and a hare can run exactly 15 times as fast. In a race, they both start at the same time, but the hare stops to rest for 2.00 min . If the tortoise wins by 20 cm ,
- How long does the race take? Give your answer in seconds, you should get an answer between $100 - 150$ seconds.

- What is the length of the race?