

Unit 2 WS 4: Constant Velocity Word Problems

1. The slowest animal ever discovered was a crab found in the Red Sea. It traveled with an average speed of 5.70 km/y. How many years would it take this crab to travel 100 km?
2. For a long time it was the dream of many runners to break the "4 minute mile." Now quite a few runners have achieved what once seemed an impossible goal. On July 2, 1988, Steve Cram of Great Britain ran a mile in 3.81 minutes. During this amazing run, what was Steve's average speed in: A) mi/min? B) mi/h?
3. The horse racing record for a 1.50 mi oval track is shared by two horses. Fiddle Isle, who ran the race in 143 s on March 21, 1970, and John Henry, who ran the same distance in an equal time on March 16, 1980. What were the horses' average speeds in: A) mi/s? B) mi/h? C) What was the horses' average velocity?
4. Tiffany, who is opening in a new Broadway show, has some limo trouble in the city. With only 8.0 minutes until curtain time, she hails a cab and they speed off to the theater down a 100 m long one-way street at a speed of 25 m/s. At the end of the street, the cab driver waits at a traffic light for 1.5 min. and then turns north onto a 1700 m long traffic filled avenue on which he is able to travel at a speed of only 10.0 m/s. Finally, this brings them to the theater. A) Does Tiffany arrive before the theater lights dim? B) How much is she late by or early by?
5. It is now 10:29 a.m., but when the bell rings at 10:30 a.m. Suzette will be late for Physics for the third time this week. She must get from one side of the school to the other by hurrying down three different hallways. She runs down the 1st hallway, a distance of 35 m, at a speed of 3.5 m/s. The 2nd hallway is filled with students, and she covers its 48 m length at an average speed of 1.2 m/s. The final hallway is empty, and Suzette sprints its 60 m length at a speed of 5.0 m/s. What is the exact time Suzette gets to class?
6. Hans stands at the rim of the Grand Canyon and yodels down to the bottom. He hears his yodel echo back from the canyon floor 5.2 s later. How deep is the canyon at this location?
7. A torpedo fired from a submerged submarine is propelled through the water with a speed of 20.0 m/s and explodes upon impact with a target 2000 m away. If the sound of the impact is heard 101.4 s after the torpedo was fired, what is the speed of sound in water?