

### Study Guide for Speed Quiz

<b>Common Units of Distance, Time, and Speed</b>		
<b>Distance</b>	<b>Time</b>	<b>Speed</b>
meters (m)	second (s)	meters per second (m/s)
miles (mi)	hour (h)	miles per hour (mi/h)
kilometers (km)	minute (min)	kilometers per hour (km/h)
centimeters (cm)	year (yr)	centimeters per year (cm/yr)
millimeters (mm)	week (wk)	feet per second (ft/s)
feet (ft)	month (mo)	millimeters per minute (mm/min)
inches (in)	day (d)	inches per day (in/d)

<b>Speed Equations</b>
Speed = Distance/Time
Distance = Speed x Time
Time = Distance/Speed

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*Example 1:* Lance ran a lap around the 400-meter track in 90 seconds. What was his **average speed**?

$$\text{Speed} = \text{Distance} / \text{Time}$$

$$\text{Speed} = 400 \text{ m} / 90 \text{ s}$$

$$\text{Speed} = 4.4 \text{ m/s}$$

*Example 2:* Lance knows that his fastest running speed is 7 meters per second. He ran as fast as he could for 30 seconds. **How far** did he run?

$$\text{Distance} = \text{Speed} \times \text{Time}$$

$$\text{Distance} = (7 \text{ m/s}) \times (30 \text{ s})$$

$$\text{Distance} = 210 \text{ m}$$

*Example 3:* **How long** did it take Lance to run 2 laps around the track (800 meters) at a speed of 5 meters per second? Part 2: How many minutes?

$$\text{Time} = \text{Distance} / \text{Speed}$$

$$\text{Time} = (800 \text{ m}) / (5 \text{ m/s})$$

$$\text{Time} = 160 \text{ s}$$

$$\text{Part 2: } 160\text{s} / 60 = 2.7 \text{ minutes}$$

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