

**Name:**

**SPEED & VELOCITY  
Practice**

1. Velocity is...	2. Speed is...
3. Instantaneous speed is...	4. Instantaneous velocity is...
5. The equation to solve for speed is...	6. The equation to solve for velocity is...
7. Write the equation needed to solve for time... (rearrange the speed equation).	8. Write the equation needed to solve for distance... (rearrange the speed equation)

### Calculating Speed and Calculating Velocity

Fill in the variables from the problem. Show All Work for Your Calculations

<p>9. A car moves 100 meters in 6 seconds. Calculate the car's speed.</p> <p><math>d =</math> _____      <math>t =</math> _____</p> <p><math>v =</math></p>	<p>10. A runner runs the 50 meter dash in 4.8 seconds. Calculate the runner's speed.</p> <p><math>d =</math> _____      <math>t =</math> _____</p> <p><math>v =</math></p>
<p>11. A man on a bicycle rides his bike 3.0 km in 6.0 minutes. Calculate his average speed (m/s) (you must do unit conversions)</p> <p><math>d =</math> _____      <math>t =</math> _____</p> <p><math>v =</math></p>	<p>12. A man on a bicycle rides his bike 20,000 m in 24 minutes. Calculate his average speed (m/s). (you must do unit conversions)</p> <p><math>\Delta d =</math> _____      <math>t =</math> _____</p> <p><math>v =</math></p>
<p>13. A man walks 50 m N in 40 s. Calculate the man's velocity.</p> <p><math>\Delta x =</math> _____      <math>t =</math> _____</p> <p><math>\vec{v} =</math></p>	<p>14. A car moves 1000 m east in 40 seconds. Calculate the car's velocity.</p> <p><math>\Delta x =</math> _____      <math>t =</math> _____</p> <p><math>\vec{v} =</math></p>

### Calculating Time or Distance Show All Work for Your Calculations

<p>15. A cheetah runs 300 meters at a velocity of 24 m/s. Calculate the time that the cheetah ran.</p> <p><math>\vec{v} =</math> _____      <math>\Delta x =</math> _____</p> <p><math>t =</math></p>	<p>16. A cheetah runs at a velocity of 21 m/s for 9 seconds. Calculate the cheetah's displacement (distance, assume a straight line).</p> <p><math>\vec{v} =</math> _____      <math>t =</math> _____</p> <p><math>\Delta x =</math></p>
---	--

<p>17. A man on a bicycle rides his bike 3000 m S at a velocity of 12 m/s S. Calculate the time that the man rode his bike.</p> <p>v = _____      d = _____</p> <p>t = _____</p>	<p>18. A man on a bicycle rides his bike at an average speed of 15 m/s for 5 minutes. Calculate the distance that the man rode his bike.</p> <p>v = _____      t = _____</p> <p>d = _____</p>
<p>19. Randy runs to his class on the other side of the building. He runs 85 meters with an average speed of 2.2 m/s. Calculate the amount of time it took Randy to reach his class.</p> <p>v = _____      d = _____</p> <p>t = _____</p>	<p>20. Randy runs to his class on the other side of the building. He runs for 1.8 minutes with an average speed of 3.2 m/s. Calculate the distance he ran. (you must do unit conversions)</p> <p>v = _____      t = _____</p> <p>d = _____</p>

**Calculating Average Speed and Average Velocity**  
**Show All Work for Your Calculations**

<p>21. Janet rides her bicycle 300 meters N in 3 min, stops at the corner for 1 minute, turns around and rides 600 meters W in 9 min.</p> <ul style="list-style-type: none"> <li>• Draw a picture, use coordinates.</li> <li>• Solve for total distance</li> <li>• Solve for displacement</li> <li>• Solve for total time</li> <li>• Calculate average speed.</li> <li>• Calculate average velocity.</li> </ul>
---

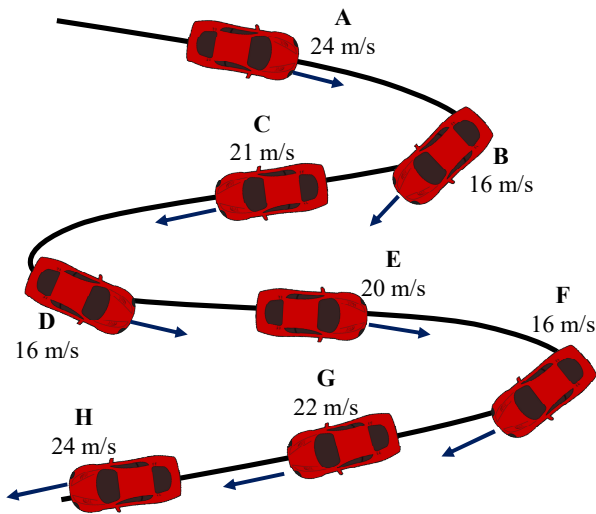
22. Lazlo drives his car 2000 m E in 4 min. He stops at a red traffic signal for 1 min. He turns and drives south 1500 m in 5 min.

- Draw a picture, use coordinates
- Solve for total distance
- Solve for displacement
- Solve for total time
- Calculate average speed.
- Calculate average velocity.

23. Fernando walked to the carnival. He walked 300 m N in 5 minutes. He stopped at the corner for 1 minute. He walked 400 m W in 8 minutes. He stopped at the corner for 1 minute. He walked 100 m N in 3 minutes. He arrived.

- Draw a picture, use coordinates
- Solve for total distance
- Solve for displacement
- Solve for total time
- Calculate average speed.
- Calculate average velocity.

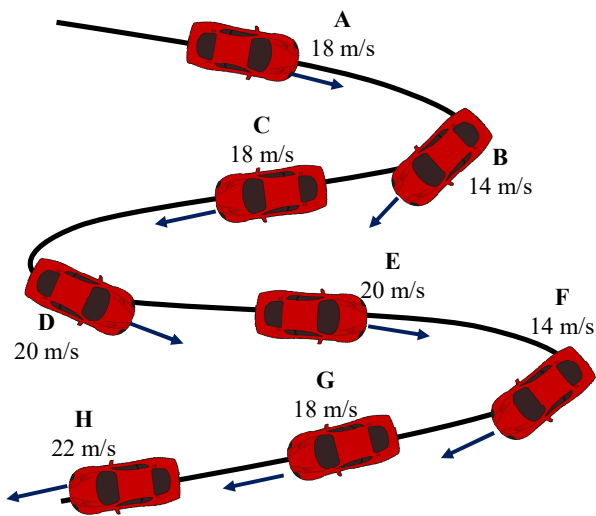
24. A car is on a curvy road and is constantly changing direction and how fast it moves.



Which positions of the car have the same instantaneous velocities?

Which positions of the car have the same instantaneous speeds, but not equal instantaneous velocities?

25. A car is on a curvy road and is constantly changing direction and how fast it moves.



Which positions of the car have the same instantaneous velocities?

Which positions of the car have the same instantaneous speeds, but not equal instantaneous velocities?