

## Quiz 4 solutions

1. Because the car's y-coordinate at  $t=0$  is strictly positive, the car does not begin at the finish line.

2. The y-coordinate at  $a$  &  $b$  appear to be equal.  
That is,  $f(a) \approx f(b)$ .

$$\text{Therefore, } \frac{f(b) - f(a)}{b - a} = \frac{0}{b - a} = 0$$

Conclude: The average velocity of the car between points  $a$  and  $b$  is zero.

3. The car is moving toward the finish line.

4. Position: At the finish line.  
velocity: zero

5. The car is moving fastest at the points  $a$  and  $b$ .

6. The car is traveling away from the finish line.

7. The acceleration of the car at the point  $d$  is negative.

Two ways to see this

① The velocity is decreasing near the pt  $d$ .

② The graph is concave down at  $d$ .