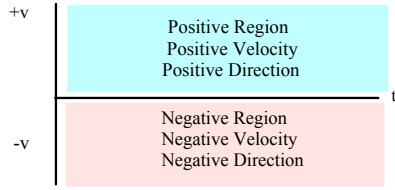


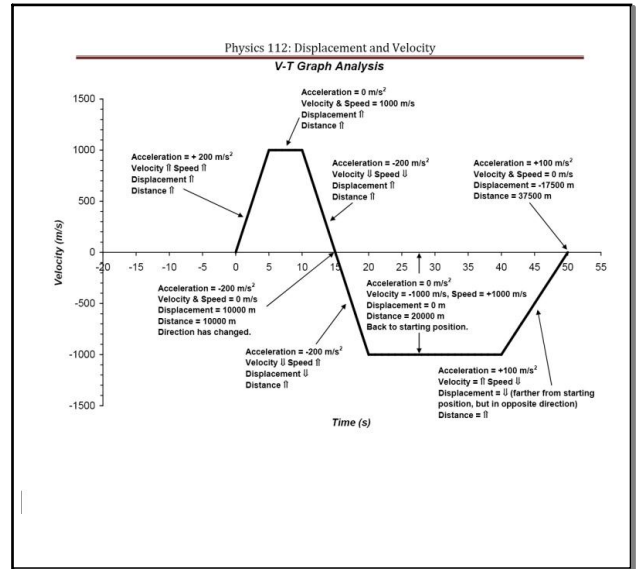
Velocity-Time Graphs

Direction of Motion

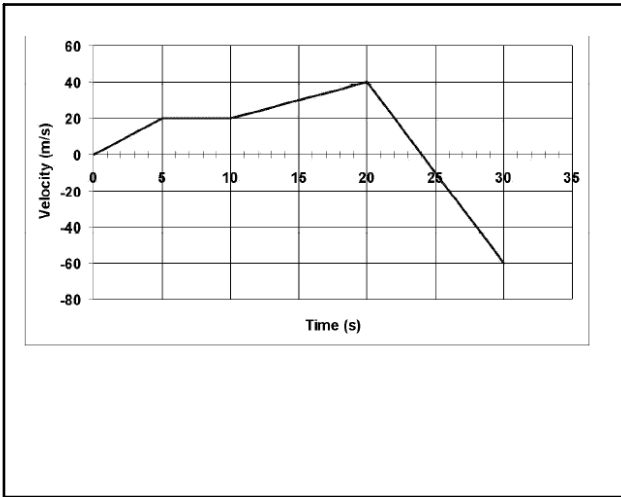


If the graph line crosses over the time axis from the positive region to the negative region (or vice versa), then the object has changed directions.

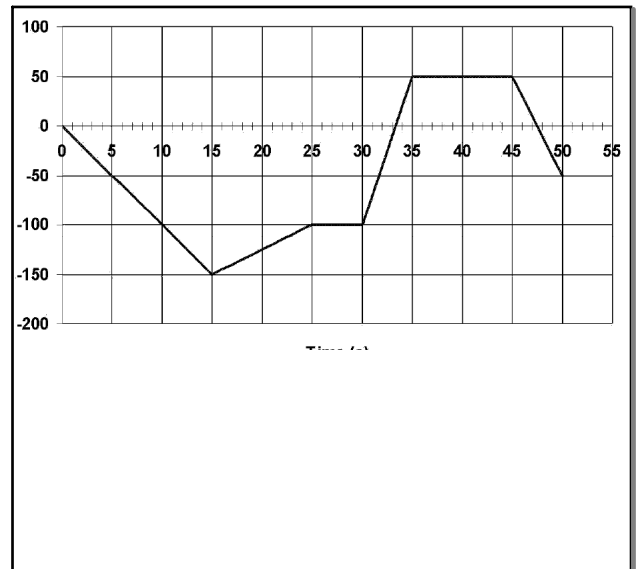
Sep 18-1:41 PM



Feb 3-2:45 PM



May 16-11:09 AM



Sep 29-10:49 AM

More Practice & Review

- Use a scale diagram to find the resultant of 90 km [W3E] , 60 km [E] , and 70 km [W78N]
- Use a scale diagram to find the resultant of 58 m [N] , 12 m [S] , 45 m [E] , and 112 m [W] (81.3 m [W34N])

3) East

- What was the instantaneous velocity at $t = 7.25 \text{ s}$? (2.0 m/s E)
- What was the displacement at $t = 35 \text{ s}$? (0.0 m)
- What was the distance travelled during the 35 s trip? (50 m)
- What was the average speed for the entire trip? (1.43 m/s) Average velocity? (0.0 m/s)
- What was the instantaneous velocity at $t = 21.83 \text{ s}$? (-0.5 m/s)
- What was the average velocity for the first 25 s? (-0.2 m/s)

4) East

- Determine the displacement and distance travelled. (dis = -10000 m) (dist = 30000 m)
- Determine the average speed and velocity. (Spd = 600 m/s) (Vel = -200 m/s)
- What was the instantaneous acceleration at $t = 42.3 \text{ s}$? (100 m/s^2) at $t = 24.8 \text{ s}$? (-100 m/s^2)

- A car accelerates from rest to 32 m/s [E] in 12.5 s . (a) Find the average acceleration. (b) What distance does this car cover in that time? (acc = 2.56 m/s^2 [E]; dist = 200 m)
- A plane lands with a velocity of 47 m/s [E] . It takes 17 s to stop. (a) What was the average acceleration of the plane? (b) What distance was required to stop? (acc = -2.76 m/s^2 ; dist = 400 m)
- A police car initially at 27.8 m/s [E] accelerates at 1.39 m/s^2 for 8.9 s . (a) What is the final velocity of the car? (b) What distance was covered during the acceleration? (V = 40.2 m/s ; dist = 303 m)
- A car traveling at 25 m/s [E] accelerates to 10 m/s [E] in 5.0 s . (a) What is the acceleration of the car? (b) What distance was covered in that time? (c) What distance, from the point where the car's velocity is 25 m/s [E] is needed to come to a stop assuming the acceleration is constant? (-3.0 m/s^2 [E]; dist = 87.5 m ; dist to stop = 104 m)

Feb 17-7:35 AM