More Practice & Review
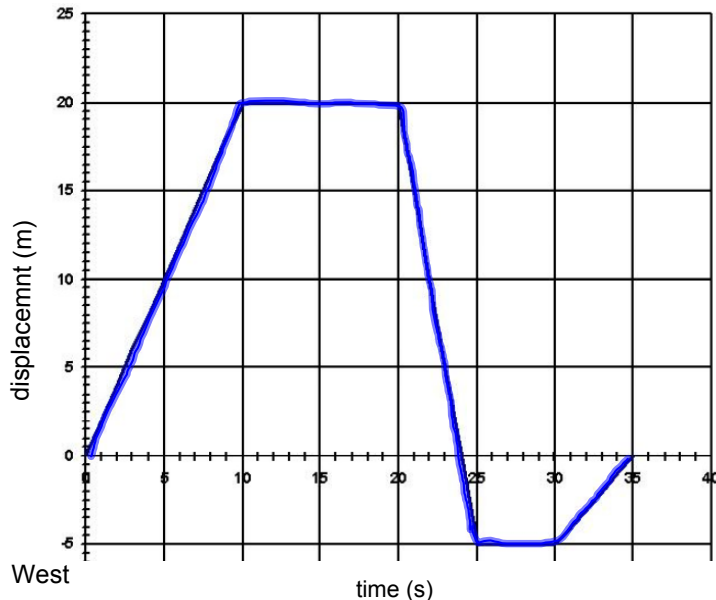
1) Use a scale diagram to find the resultant of 90 km [W35S], 60 km [E], and 70km [W75N]

2) Use a scale diagram to find the resultant of 58 m [N], 12 m [S], 45 m [E], and 112 m [W].
(81.3m [W34°N])

3) East

(a) What was the instantaneous velocity at t = 7.25 s? (2.0m/s E)
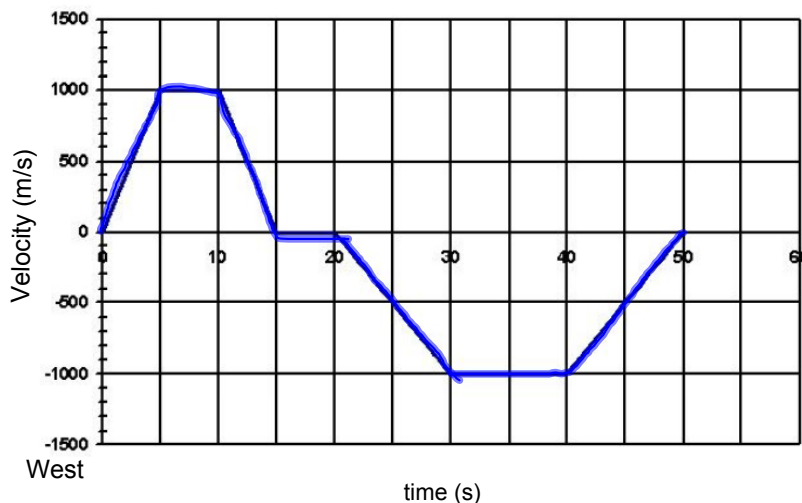
(b) What was the displacement at t = 35 s? (0.0m)

(c) What was the distance travelled during the 35 s trip? (50m)

(d) What was the average speed for the entire trip? (1.43m/s) Average velocity? (0.0m/s)

(e) What was the instantaneous velocity at t = 21.83 s? (-5.0m/s)

(f) What was the average velocity for the first 25 s? (-0.2m/s)

4) East

(a) Determine the displacement and distance traveled.
(disp = -10000m)
(dist = 30000m)

(b) Determine the average speed and velocity. (Spd = 600 m/s)
(Vel = -200 m/s)

(c) What was the instantaneous acceleration at t = 42.3 s? (100m/s²) at t = 24.8 s? (-100m/s²)

5) A car accelerates from rest to 32 m/s [E] in 12.5 s. (a) Find the average acceleration. (b) What distance is does this car cover in that time? (acc = 2.56 m/s² E; dist = 200 m)

6) 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/s²; dist = 400 m)

7) A police car initially at 27.8 m/s [E] accelerates at 1.39 m/s² [E] 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)

8) 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 need to come to a stop assumingthe acceleration is constant? (-3.0 m/s² [E]; dist = 87.5 m; dist to stop = 104 m/s)