Key - Motion Graph Practice
Physics

#1: x-vs-t

Position (meters) vs. Time (seconds)
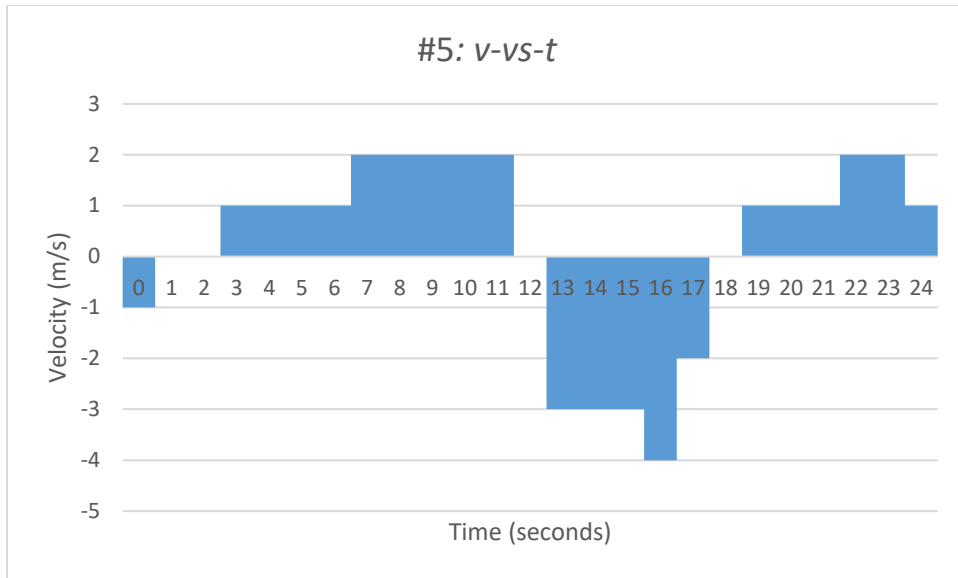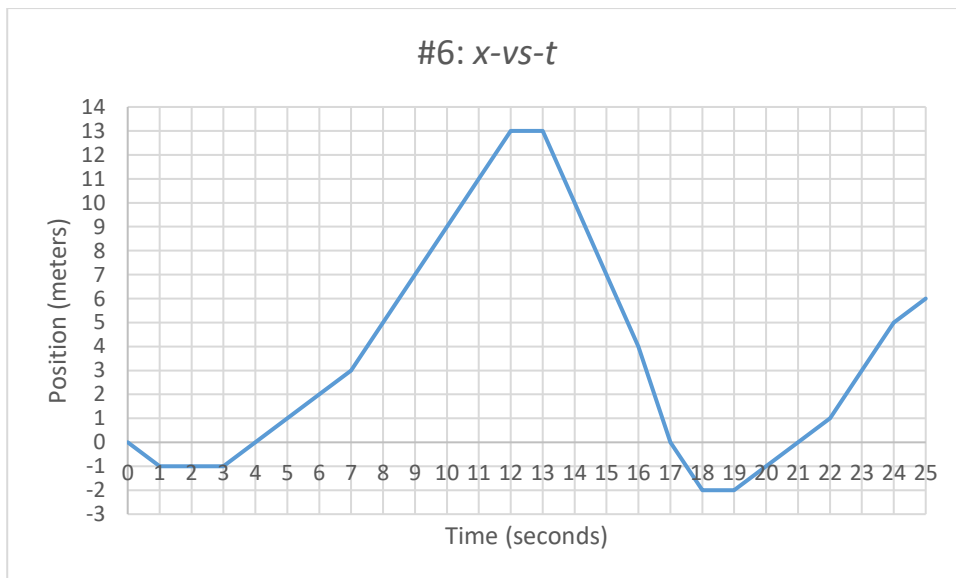
1.

#2: v-vs-t

Velocity (m/s) vs. Time (seconds)

2.
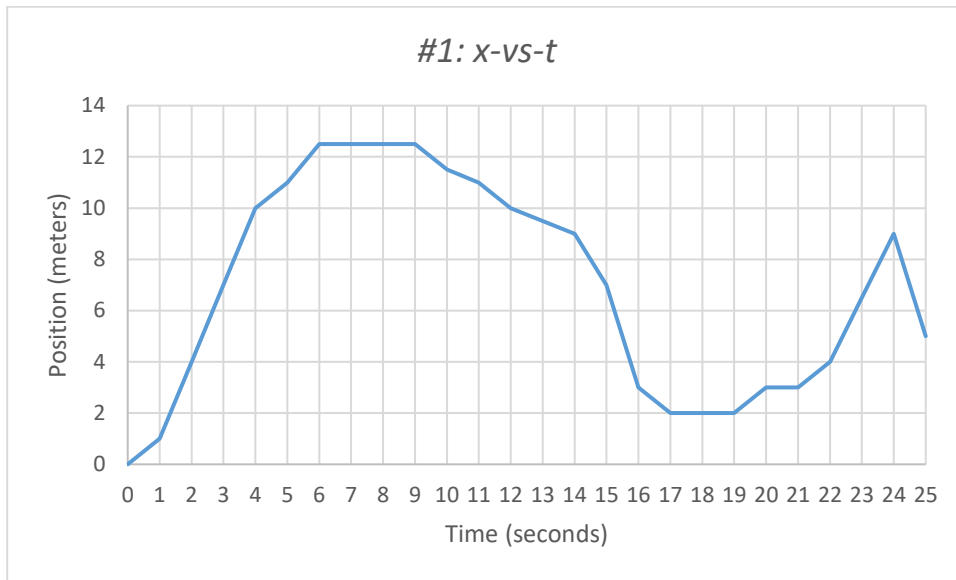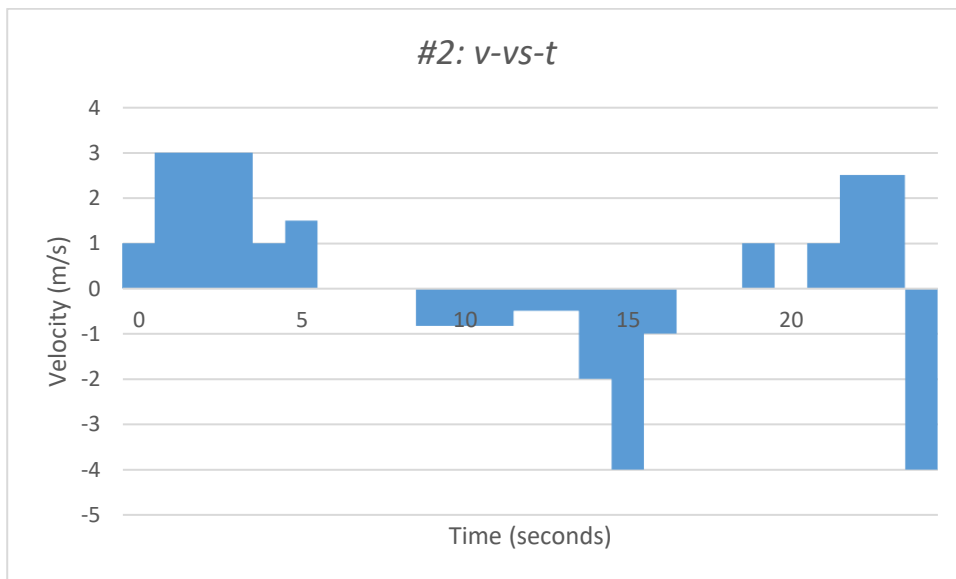
3. Δx = 7 – 12.5 = -5.5
    Δt = 15 – 7 = 8
    Δx / Δt = -5.5/8 = -0.69 m/s

4. From 6-9 seconds, from 17-19 seconds, and from 20-21 seconds

#5: *v-vs-t*

5.

#6: *x-vs-t*

6.

7. Area = l x w
   Area from 5-7 = 1 m/s * 2 s = 2 m
   Area from 7-12 = 2 m/s * 5 s = 10 m
   Area from 12-13 = 0 m/s * 1 s = 0 m
   Area from 13-14 = -3 m/s *1 s = -3 m
   Total area = 2 + 10 + 0 + -3 = 9 m (matches Δx from *x-vs-t* graph)

8. From 1-3 seconds, from 12-13 seconds and from 18-19 seconds