1 D kinematics extra practice solutions

1. vf = vo + at; vf = 0 + 2m/s/s)(8.5 s) = 17 m/s

x = ½ at2; x = ½ (2m/s/s)(10s)2 = 400 m

1. vf = vo + at; 25m/s/(6m/s/s) = t = 4.17 s

vf2 = vo2 + 2ax; (25m/s)2/(2)(6m/s/s) = x 52.1 m

1. x = ½ at2; 150 = ½ a (25s)2 a = 0.48m/s/s

vf = vo + at; vf = 0 +0.48m/s/s)(25s) = 12 m/s

1. x = ½ a t2; x = ½ (2.5m/s/s)(8s)2 = 80 m

x = xo + v0t + ½ at2; x = 0 + 10m/s)(8s) + ½ (2.5m/s/s)(8 s)2 = 160 m

1. vf2 = vo2 + 2ax; (10m/s)2/2)(1.1) = 45.5

vf = v0 + at (10m/s)/1.1 = t = 9.09 s

vav = (vf + vo)/2= (10 + 0)/2 = 5 m/s