

Unit 1 WS 10

1) $v_0 = 0 \text{ m/s}$ A) $v_f = v_0 + at$ B) $\Delta x = \frac{1}{2}at^2 + v_0t$
 $v_f = 28 \text{ m/s}$ $28 = 0 + a(20)$ $\Delta x = \frac{1}{2}(1.4)(20)^2$
 $t = 20 \text{ s}$ $a = 1.4 \text{ m/s}^2$ $\Delta x = 280 \text{ m}$

C) $\Delta x = v_{\text{avg}} t$
 $280 = v(20)$
 $v_{\text{avg}} = 14 \text{ m/s}$

2) $v_0 = 30 \text{ m/s}$ A) $v_f = v_0 + at$
 $v_f = 14 \text{ m/s}$ $14 = 30 + a(6)$
 $t = 6 \text{ s}$ $a = -2.67 \text{ m/s}^2$