

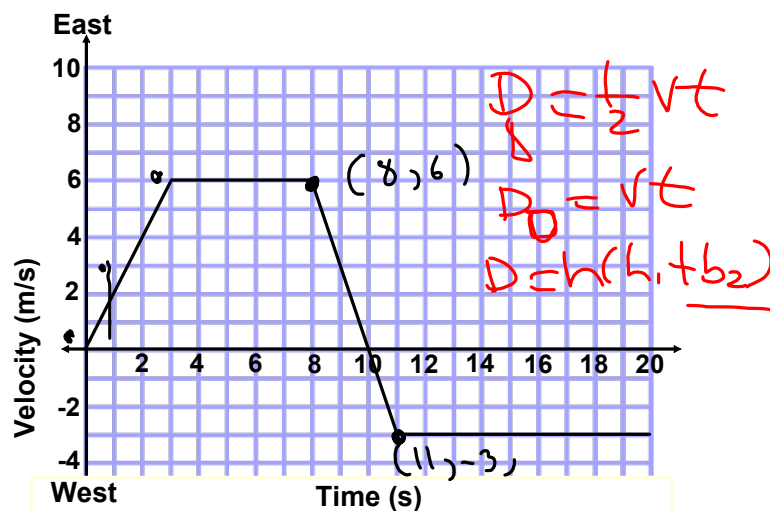
April 11, 2018

1) graphing acceleration cont

- complete guided practice #3-7
- Practice Questions
- MC/WS

Test Tuesday on Acceleration!!!

Velocity - Time Analysis Questions: Guided Practice



Quantitative Analysis (calculations)

1. Calculate the initial acceleration.
2. Calculate the distance traveled during the first 6 seconds.
3. Calculate the total distance traveled east.
4. Calculate the total distance traveled west.
5. Calculate the position at the 20 s mark.
6. Calculate the average velocity and speed for the 20 s.
7. Calculate the acceleration at the 9.31 s mark.

1. $\vec{a} = \text{slope}$
 $\vec{a} = \frac{6-0}{3-0} = \boxed{2 \text{ m/s}^2}$
2. $d_{\text{dist}} = \text{area}$
 $= \frac{h(b_1 + b_2)}{2} = \frac{6(6+3)}{2} = \boxed{27 \text{ m}}$
3. $d_{\text{East}} = \text{top area}$
 $d_{\text{East}} = d_1 + d_2$, $d_1 = 27 \text{ m}$
 $d_2 = \frac{6(2+4)}{2} = 18 \text{ m}$
 $d_{\text{East}} = 27 + 18 = \boxed{45 \text{ m}}$
4. $d_{\text{West}} = \text{bottom area}$
 $= \frac{h(b_1 + b_2)}{2} = \frac{3(10+4)}{2} = \boxed{28.5 \text{ m}}$
5. $\vec{d}_t = \text{Area Top} - \text{Bottom}$
 $= 45 - 28.5$
 $\boxed{\vec{d}_t = 16.5 \text{ m}}$
- $d = \text{Area Top} + \text{Bottom}$ ← Total Dist
 $= 45 + 28.5 = \boxed{73.5 \text{ m}}$
6. $\vec{v}_{\text{avg}} = \frac{\vec{d}}{t} = \frac{16.5}{20} = \boxed{0.83 \text{ m/s}} \text{ [E]}$
 $v_{\text{sp}} = \frac{d}{t} = \frac{73.5}{20} = \boxed{3.68 \text{ m/s}}$
7. $\vec{a} = \text{slope} = \frac{y_2 - y_1}{x_2 - x_1} = \frac{-3 - 6}{11 - 8} = \frac{-9}{3} = \boxed{-3 \text{ m/s}^2}$ [E]

Graphing Practice MC

Graphing Practice WS (side 1)