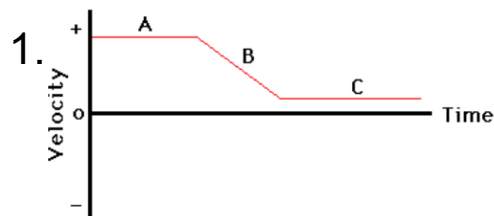


April 10, 2018

- cont with graphing acceleration
- answers from yesterdays question
- guided practice

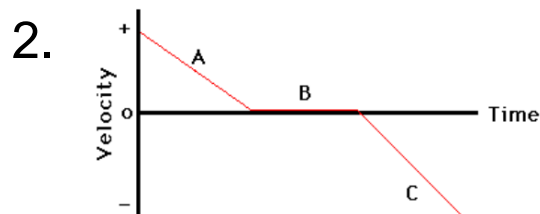
Reminder Test Tuesday Acceleration Unit



A: object moves in a positive (+) direction with zero acceleration and a constant velocity

B: Slows down in the (+) direction with a negative acceleration

C: Moves a constant velocity in the (+) direction with zero acceleration.

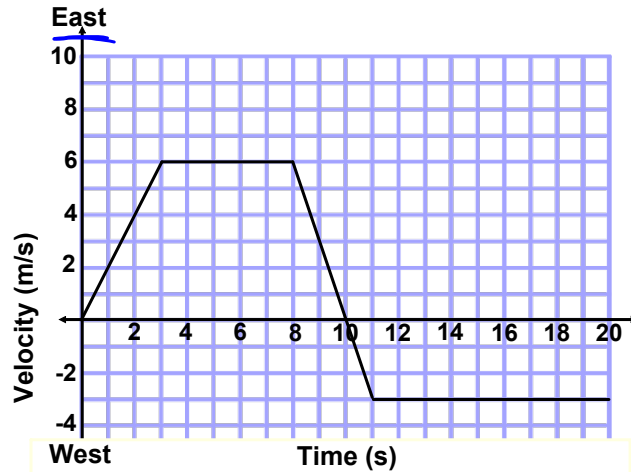


A: object moves in a (+) direction slowing down with a negative acceleration

B: object stops moving with a zero acceleration

C: Object changes directions and moves in the (-) direction with a negative acceleration, while speeding up.

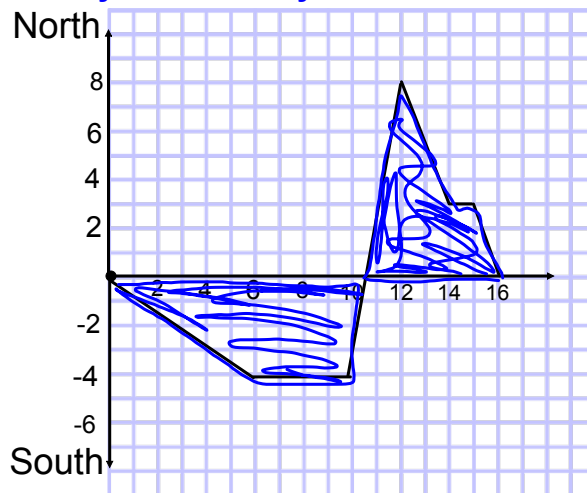
Velocity - Time Analysis Questions: Guided Practice



Qualitative Analysis (no calculations)

1. In what direction was the initial acceleration? **East**
2. Describe the direction of the velocity and acceleration between 8 and 11 seconds. *From 8-10, velocity is east, from 10-11, it is west*
3. For how many seconds was the object not accelerating? **4s**
4. At what time(s) did the object change directions? **10s**
5. Did the object spend more time traveling east or west? **equal**
6. In which direction did the object cover the most distance? **East**
7. Was the final displacement of the object east or west of the starting point? **East**

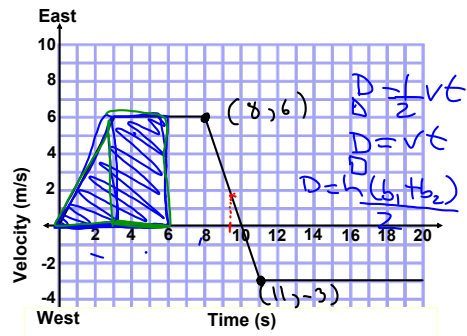
Velocity - Time Analysis Questions: Guided Practice



Qualitative Analysis (no calculations)

1. In what direction was the initial acceleration? **South**
2. Describe the direction of the velocity and acceleration between 8 and 11 seconds. **South** (8-10s), **North** (10-11s)
3. For how many seconds was the object not accelerating? **5s**
4. At what time(s) did the object change directions? **10.5s**
5. Did the object spend more time traveling North or South? **South**
6. In which direction did the object cover the most distance? **South**
7. Was the final displacement of the object North or South of the starting point? **South**

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.

$$1. \quad a = \frac{v_f - v_0}{t_f - t_0} = \frac{6 - 0}{3 - 0} = \frac{6}{3} = 2 \text{ m/s}^2 \text{ [E]}$$

$$2. \quad \frac{1}{2}vt + vt \quad \text{or} \quad \frac{h(b_1 + b_2)}{2}$$

$$\frac{(6)(3)}{2} + (3)(6) \quad \text{or} \quad \frac{6(3 + 6)}{2}$$

$$9 + 18 \quad \text{or} \quad \frac{54}{2}$$

$$27 \text{ m} \quad \text{or} \quad 27 \text{ m}$$