

Wednesday, November 28/12  
Science 10

Announcements

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1. Quiz - Chapter 12 Problems -> Thursday

2. Activity - Acceleration of a Cart -> Optional

3. Check: Worksheet - Chapter 12

4. Three Ways to Charge Objects

5. Current Electricity

6. Parts of a Circuit

7. Flow of Electrons/Conventional Current

8. Kits

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9. Schematic Diagrams

10. Types of Circuits



$$\#1. \quad t = 2.0 \text{ min} \times \frac{60 \text{ s}}{1 \text{ min}} = 120 \text{ s}$$

$$\vec{a} = +0.19 \text{ m/s}^2$$

$$\vec{v}_i = 0 \frac{\text{m}}{\text{s}}$$

$$\vec{v}_f = ?$$

$$\vec{v}_f = \vec{v}_i + \vec{a} t$$

$$\vec{v}_f = 0 + \left(0.19 \frac{\text{m}}{\text{s}^2}\right) (120 \text{ s})$$

$$\vec{v}_f = +23 \text{ m/s}$$

The object went from  $\vec{v}_i$   
to  $\vec{v}_f$

At  $\vec{v}_i$  to  $\vec{v}_f$

2.

$$\Delta \vec{d} = -115 \text{ m}$$

$$\vec{v}_i = -4.20 \text{ m/s}$$

$$\vec{v}_f = -5.00 \text{ m/s}$$

$$t = ?$$

$$2\Delta \vec{d} = \left[ \frac{(\vec{v}_i + \vec{v}_f) t}{2} \right] \cancel{2}$$

$$\frac{2\Delta \vec{d}}{\vec{v}_i + \vec{v}_f} = \frac{(\vec{v}_i + \vec{v}_f) t}{\vec{v}_i + \vec{v}_f}$$

$$\frac{2\Delta \vec{d}}{\vec{v}_i + \vec{v}_f} = t$$

$$\frac{2(-115 \text{ m})}{-4.20 \text{ m/s} + (-5.00 \text{ m/s})} = t$$

$$\left[ \frac{-230 \text{ m}}{-9.20 \text{ m/s}} \right] = t$$

$$25.0 \text{ s} = t$$

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$$\# 3. \vec{v}_i = +186 \frac{\text{km}}{\text{h}} \div 3.6 = +51.7 \frac{\text{m}}{\text{s}}$$

$$\vec{a} = -1.5 \frac{\text{m}}{\text{s}^2}$$

$$t = ?$$

$$\vec{v}_f = \vec{v}_i + \vec{a} t$$

$$\vec{v}_f = 0 \frac{\text{m}}{\text{s}}$$

~~$$\vec{v}_f - \vec{v}_i = \vec{v}_f - \vec{v}_i + \vec{a} t$$~~

~~$$\frac{\vec{v}_f - \vec{v}_i}{\vec{a}} = \frac{\vec{a} t}{\vec{a}}$$~~

$$t = \frac{\vec{v}_f - \vec{v}_i}{\vec{a}}$$

$$t = \frac{0 - (51.7 \frac{\text{m}}{\text{s}})}{-1.5 \frac{\text{m}}{\text{s}^2}}$$

$$t = 34 \text{ s.}$$

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