

AP Physics 1

Answers to Acceleration Practice Problems

1.) $\Delta x = 45 \text{ m}$ 2.) $v = 22 \frac{\text{m}}{\text{s}}$ 3.) $\Delta x = 110 \text{ m}$ 4.) $t = 5.0 \text{ s}$

5.) $t = 4.0 \text{ s}$ 6.) $v = 35 \frac{\text{m}}{\text{s}}$ 7.) a.) $a = 4.0 \frac{\text{m}}{\text{s}^2}$ b.) $\Delta x = 50 \text{ m}$

8.) a.) $t = 160 \text{ s}$ b.) $a = -0.025 \frac{\text{m}}{\text{s}^2}$ c.) $v = 2.0 \frac{\text{m}}{\text{s}}$ d.) $t = 40 \text{ s}$

9.) a.) $\Delta t = 15 \text{ s}$ b.) see graph below c.) $\Delta x = 1225 \text{ m}$ d.) $a_{av} = -0.20 \frac{\text{m}}{\text{s}^2}$

10.) collision at $t = 7.0 \text{ s}$ and $x = 175 \text{ m}$ 11.) a.) $t = 2.86 \text{ s}$ b.) $v = -28.0 \frac{\text{m}}{\text{s}}$

12.) a.) $t = 1.02 \text{ s}$ b.) $y = 5.10 \text{ m}$ c.) $t = 0.51 \text{ s}$ and $t = 1.53 \text{ s}$

13.) a.) $y = 66.9 \text{ m}$ b.) $v = -36.2 \frac{\text{m}}{\text{s}}$ c.) $t = 6.25 \text{ s}$ d.) $t = 5.81 \text{ s}$

