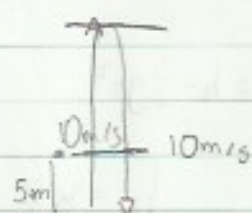


67)



$$10^2 - v^2 = 2 \cdot (-9.8) \cdot 5$$

$$-v^2 = -98 - 100$$

$$-v^2 = -198$$

$$v^2 = 198$$

$$v = \boxed{14.07 \text{ m/s}}$$

$$68) \Delta x = \frac{1}{2} 2 t^2 \quad a) 30 \text{ s}$$

$$b) 60 \text{ m/s}$$

$$\Delta x = 30 +$$

$$30 + = t^2$$

$$0 = t^2 - 30 +$$

$$0 = t(t - 30)$$

$$t = 0, 30$$

$$v = 2 \cdot t$$

$$t = 100$$

$$100 - x = 12 \cdot (9.9 - t)$$

$$100 - 12(9.9 - t) = x$$

$$x = \frac{12}{2} t$$

$$12 = a \cdot 3.13$$

$$x = 6t$$

$$a = 3.83$$

$$100 - 118.8 + 12t = 6t$$

$$-18.8 = -6t$$

$$t = 3.13$$

$$100 \cdot \frac{0.23}{2.6} = 6.44\%$$

$$72) 7.45 \text{ m/s}^2 \quad (\text{used desmas})$$

$$74) v = \sqrt{\frac{2P}{m} t}$$

$$\frac{1}{2} \sqrt{\frac{2P}{m}} \cdot \frac{1}{\sqrt{t}} = \frac{1}{2} \sqrt{\frac{2P}{tm}}$$

$$b) v(2) = 10.95$$

$$v(10) = 24.49$$

$$c) a(2) = 5.48 \text{ m/s}^2$$

$$a(10) = 2.95 \text{ m/s}^2$$

$$80) 3.6 \text{ m/s}^2 \quad 3 \frac{1}{3} \text{ s}$$

$$\Delta x = \frac{1}{2} 3.6 \cdot 3 \frac{1}{3}^2$$

$$v = 12 \text{ m/s}$$

$$\Delta x = 20 \text{ m}$$

$$\frac{1}{2} a t^2$$

$$v = at$$

$$\frac{80 \text{ m}}{12 \text{ m/s}} = 6.67 \text{ s} + 3 \frac{1}{3} = 10 \text{ s}$$

$$a) 10 \text{ s}$$

$$b) 3.83 \text{ m/s}^2$$

$$c) 6.44\%$$