

1

$$V = \frac{d}{t}$$

$$V_0 = \frac{d}{t}$$

$$60 \text{ m/s} = \frac{15 \text{ m}}{t}$$

$$t = \frac{15 \text{ m}}{60 \text{ m/s}}$$

$$t = \frac{60 \text{ m/s}}{15 \text{ m}}$$

$$t = 4 \text{ m}$$

2 $v = \frac{d}{t}$

$$3 \times 10^8 \text{ m/s} = \frac{1.5 \cdot 10^8 \text{ m}}{t}$$

$$t = 1.5 \cdot 10^8 \cdot 3 \cdot 10^8$$

$$t = 4.5 \cdot 10^{16}$$

3

$$a = \frac{v_2 - v_1}{t_2 - t_1}$$

$$A: \frac{50 - 25}{45 - 0} = 0,2 \text{ m/s}^2$$

$$B: \frac{50 - 50}{85 - 45} = 0 \text{ m/s}^2$$

$$C: \frac{0 - 50}{110 - 85} = -2 \text{ m/s}^2$$

$$4 \quad d = v_i \cdot t + \frac{1}{2} \cdot a \cdot t^2$$

$$v_i = 0$$

$$t = 4$$

$$a = 9,8$$

$$d = 0 \cdot 4 + \frac{1}{2} \cdot 9,8 \cdot 4^2$$

$$d = 78,4 \text{ m}$$

5

$$v_f^2 = v_i^2 + 2(g)(d)$$

$$v_f^2 = 0^2 + 2 \cdot 9,8 \cdot 70$$

$$v_f = \sqrt{1372}$$

$$v_f = 37,04$$