

第 6 题答案是 BD, 另外 B 选项分母还有个 3

1. C. 2. D. 3. A. 4. B. 5. A, C, D. 6. C, D

7. (1). 0.1. (2) ~~0.54~~ ~~0.54~~ 2.4 (3) A, C, D
0.96

8. (1) 当 A 和 B 的速度相等时相距最近.

$$v_A = 4 \text{ m/s} \quad 4 \text{ m/s} = 10 \text{ m/s} - 2 \cdot t$$

$$v_B = v_B + at \quad t = 3 \text{ s}$$

$$x_A = v_A \cdot t = 12 \text{ m}$$

$$x_B = v_B t + \frac{1}{2} at^2 = 21 \text{ m}$$

$$\Delta x = x_B - x_A = 9 \text{ m}$$

(2) B 刹车所用时间为

$$v = v_B + at_1 \quad t_1 = 3 \text{ s}$$

$$B \text{ 停止时. } x_B' = v_A \cdot t_1 = 12 \text{ m}$$

$$x_B' = v_B \cdot t_1 + \frac{1}{2} at_1^2 = 25 \text{ m}$$

\therefore B 停止时 A 还未追上.

\therefore A 追上时 A 的位置为

$$x_B'' = x_B' + a_0 = 25 \text{ m} + 7 \text{ m} = 32 \text{ m}$$

$$t_A = \frac{x_B''}{v_A} = 8 \text{ s}$$