



$$v_i = -4 \text{ m/s } \hat{x}, 2 \text{ m/s } \hat{y}$$

$$\underline{v_f = v_0 + at}$$

$$t = 3 \text{ s}$$

$$v_f = 2 \text{ m/s } \hat{x}, 0 \text{ m/s } \hat{y}$$

$$a = \underline{2 \text{ m/s}^2 \hat{x}, -2/3 \text{ m/s}^2 \hat{y}}$$

$$x: 2 = -4 + a_x(3) \quad y: 0 = 2 + a(3)$$

$$6 = 3a_x$$

$$a_x = 2 \text{ m/s}^2 \hat{x}$$

$$0 = 2 + 3a$$

$$-2 = 3a$$

$$a = -2/3 \text{ m/s}^2 \hat{y}$$



$$x_i = -8 \text{ m}\hat{x}, 4 \text{ m}\hat{y}$$

$$x_f = -34 \text{ m}\hat{x}, -19 \text{ m}\hat{y}$$

$$\Delta x = -26 \text{ m}\hat{x}, -23 \text{ m}\hat{y}$$

$$v_i = 2 \text{ m/s}\hat{x}, 0 \text{ m/s}\hat{y}$$

$$\Delta x = \frac{t}{2} (v_i + v_f)$$

$$t = 24 \text{ s}$$

$$v_f = ?$$

$$x: -26 = \frac{24}{2} (2 + v_f)$$

$$\frac{-26}{12} = \frac{12(2 + v_f)}{12}$$

$$\frac{-2.166}{-2} = \frac{2 + v_f}{-2}$$

$$-4.17 = v_{fx}$$

$$y: -23 = \frac{24}{2} (0 + v_f)$$

$$\frac{-23}{12} = \frac{12(v_f)}{12}$$

$$v_f = -1.92$$

$$v_f = -4.17 \text{ m/s}\hat{x}, -1.92 \text{ m/s}\hat{y}$$

$$4. \quad 2.15 e+3 \text{ m}\hat{x}$$
$$2.15 \cdot 10^3 \text{ m}\hat{x}$$