PHYS 201 Formula Sheet Chapters 1—5 (Exam 1)

Constant acceleration equations:

$$v_x = v_{0x} + a_x t \qquad x = x_0 + v_{0x} t + \tfrac{1}{2} a_x t^2$$

$$v_x^2 = v_{0x}^2 + 2a_x (x - x_0) \qquad x - x_0 = \left(\frac{v_{0x} + v_x}{2} \right) t$$

$$g = 9.80 \text{ m/s}^2 \qquad w = mg$$

$$\sum F_x = ma_x \qquad \sum F_y = ma_y$$

$$f_k = \mu_k n \qquad f_s \le \mu_s n$$

$$F_{spr} = -kx$$

quadratic formula: The equation $ax^2 + bx + c = 0$ has solutions $x = \dfrac{-b \pm \sqrt{b^2 - 4ac}}{2a}$.