Physics 1214, Homework #5: solutions

Answers to multiple choice questions: M1: (a) B, (b) A; M2: A, B, C; M3: C

P1: \[ W = \int_{0}^{15} F \, dx = 30 \text{ J} \]

P2: \[ W = Fd \cos \theta = 86.6 \text{ J} \]

P3: \[ x_m \text{ satisfies } mg(d + x_m) \sin \theta = \frac{kx_m^2}{2} \]

Positive solution: \[ x_m = 0.27 \text{ m} \]

P4: \[ W = \frac{mv^2}{2} = 0.5 \text{ J} \]