

Physics 1214, Homework #5: solutions

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

$$\text{P1: } W = \int_0^{15} F dx = 30 \text{ J}$$

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

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

Positive solution: $x_m = 0.27 \text{ m}$

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