

Physics 2325 - Dr. Terry Honan

■ Test 2 - A - Answers

Problem 1 (i) E (ii) A (iii) D

Problem 2 168 N

Problem 3 (a) 23.5 N (b) -24 J

Problem 4 (a) 22 200 N (b) 112.6°

Problem 5 (a) $\sqrt{5 g L}$ (b) $\sqrt{R g \tan \theta}$ (c) 0.204

Problem 6 (a) 15.8 lbs (b) $2.14 \frac{\text{m}}{\text{s}}$

Problem 7 $a = \frac{m_2 - 2 \mu_k m_1}{4 m_1 + m_2} g$

Problem 8 374 N

■ Test 2 - B - Answers

Problem 1 (i) D (ii) C (iii) B

Problem 2 (i) positive (ii) negative (iii) negative

Problem 3 (a) 55.1 lbs (b) 0.117 m

Problem 4 $T_1 = \frac{W}{\sin \theta}$ and $T_2 = \frac{W}{\tan \theta}$

Problem 5 (a) $39.2 \frac{\text{N}}{\text{m}}$ (b) 107.9°

Problem 6 45.9 N

Problem 7 (a) $5 \frac{\text{m}}{\text{s}}$ (b) 24.7° (c) -16 800 J

Problem 8 (a) $W_T = 539 \text{ N}$, $W_f = -385 \text{ N}$ and $W_N = 0 = W_{\text{grav}}$ (b) 0.147

Problem 9 $a = \frac{m_2 - 2 m_1 \sin \theta}{4 m_1 + m_2} g$

Problem 10 (a) 1.63 N