

Physics 2425 - Dr. Terry Honan

■ Test 2 - A - Answers

Problem 1 (i) A (ii) D

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

Problem 3 (a) 374 N (b) -0.42 m/s and 0.48 m/s

Problem 4 (a) $\frac{m}{m+M} d$ (b) 22200 N (c) 0.153 (d) $\langle 425, 175 \rangle$ N (e) 112.6° (f) $-\frac{1}{3} \frac{m}{s}$

Problem 5 (a) $\sqrt{5gL}$ (b) $\sqrt{Rg \tan \theta}$ (c) 0.204

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

■ Test 2 - B - Answers

Problem 1 (i) positive (ii) negative (iii) negative

Problem 2 (i) C (ii) B (iii) D

Problem 3 (a) 55.1 lbs (b) 0.116 m

Problem 4 (a) $39.2 \frac{N}{m}$ (b) 107.9°

Problem 5 (a) $5 \frac{m}{s}$ (b) 24.7° (c) $a = \frac{m_2 - 2m_1 \sin \theta}{4m_1 + m_2} g$

Problem 6 (a) 45.9 N (b) 0.147 (c) -16800 J

Problem 7 (a) 1.63 N (b) 83.6°