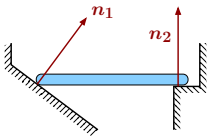
Phys 218 – Spring 2017
All Sections

Physics 218 – Exam II

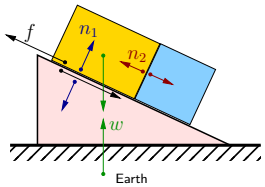
[Learning objective(s)]

Short Problems:

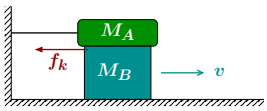
A) $v = \sqrt{mgR/M}$ [3.1, 18.1, 21.1]

B) 

[26.1, 26.2]

C) 

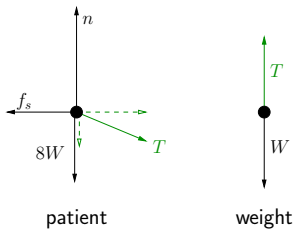
[22.1, 22.2, 22.3, 22.4]



D) $f_k = \mu_k m_A g$ [26.3, 28.1, 28.2]

E) $h = 2.25$ m [34.1, 38.1, 38.2, 39.1]

Problem 1: (a) [23.1, 23.2, 24.1, 24.2, 26.4, 29.1]



(b) $f_s = W\cos\theta$ [1.1, 3.2, 21.2, 29.2]

Problem 2: (a) $\mu_s = 0.39$ [3.3, 18.2, 21.3, 29.3]

(b) $\Delta t = 6.89$ s [3.4, 14.1, 21.4]

(c) $a_{\max} = -1.51$ m/s^2 [21.5, 23.3, 26.5, 29.4]
(it has to be accelerating downhill [slowing down] to avoid sliding)

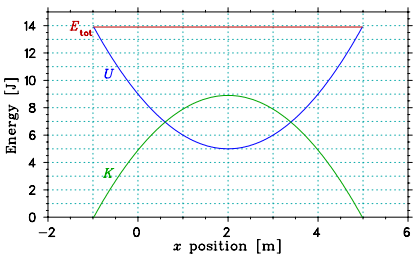
Problem 3: (a) $d = 5.10$ m [39.2]

(b) $W_{\text{friction}} = -26.5$ J [28.3, 32.1]

(c) $K_C = 1.66$ J [34.2, 39.3]

(d) $\Delta x = 0.083$ m [38.3, 39.4]

Problem 4: (a) [41.1, 41.2, 41.3]



(b) $U = 6.00$ J, $K = 7.90$ J [34.3, 37.1]

(c) 4.98 m [40.1, 43.1]

(d) $F_x = -2(x - 2.00\text{ m})$ N/m [8.1, 37.2]