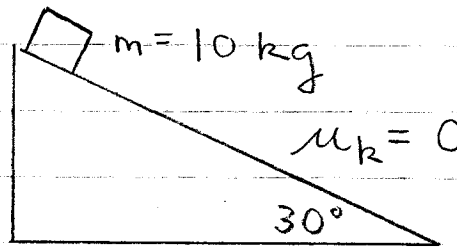
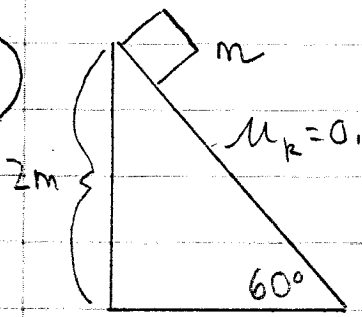
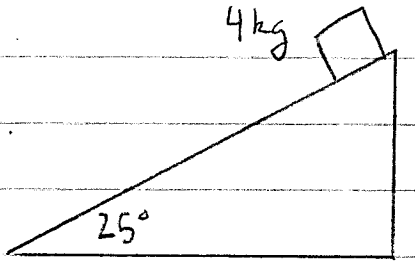
Advanced Force Questions LII

1) 

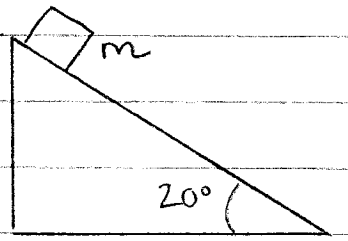
Find Acceleration of the Box
(Ans: $3.2\ m/s^2$)

2) 

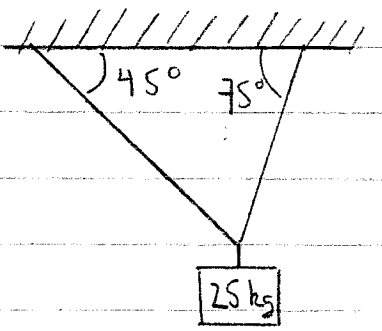
A) Find Acceleration (Ans: $6.5\ m/s^2$)
B) How fast is the box going at the bottom of the ramp?
(Ans: $5.5\ m/s$)

3) 

If $a = 3\ m/s^2$, what is the coefficient of friction?
(Ans: $\mu_k = 0.13$)

4) 

What is the μ_k such that the block slides at a constant speed? (Ans: 0.36)

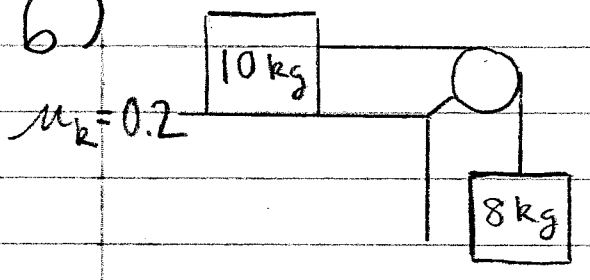
5) 

Find the tension in each string

(Ans: 199.2 N & 73.7 N)

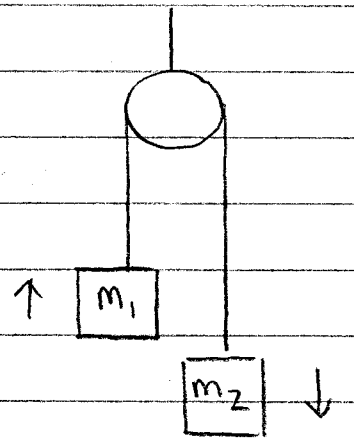
Over

6)



FIND THE ACCELERATION OF THE BOXES.
(ANS: 3.3 m/s^2)

7)

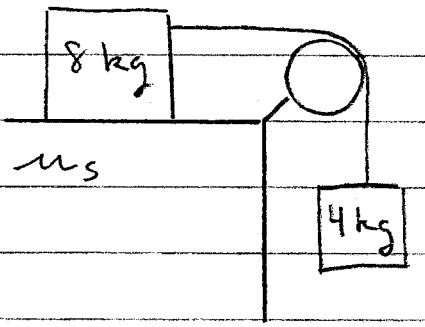


$a = 5\ m/s^2$

If $m_2 = 5$ kg, what must m_1 be such that the accelera of the boxes is $5\ m/s^2$?

(ANS: $m = 1.6$ kg)

8)



What μ_s would hold the system in place?

(ANS: 0.5)