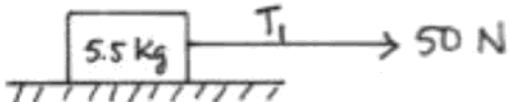
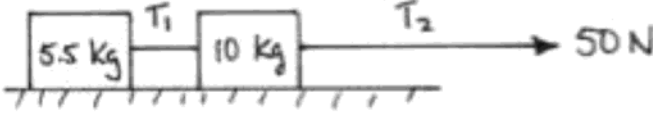
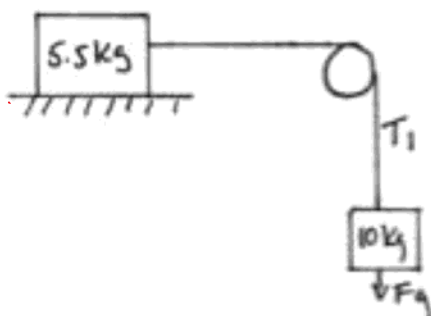
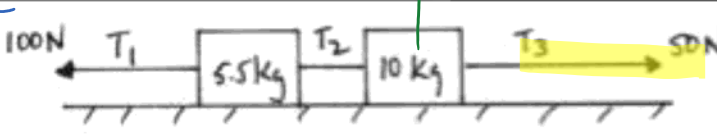
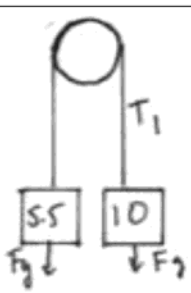


Dynamics: Tension Worksheet (for Note 5)

For each of the following calculate: a) Fnet of the system
 b) Acceleration of the system
 c) Tensions

1)		$\mu = 0.3$ (a=34N b=6.15 m/s ² c=50N)
2)		Frictionless (a=50N b=3.23 m/s ² c=50N)
3)		$\mu = 0.3$ (a=82N b=5.28 m/s ² c=45N)
*		(difficult) $\mu = 0.2$ (a=19.62N b=1.266 m/s ² c=50N) T1=100N, T2=82.26N, T3=50N
5)		Frictionless (a=44.1N b= 2.845m/s ² c=69.5N)

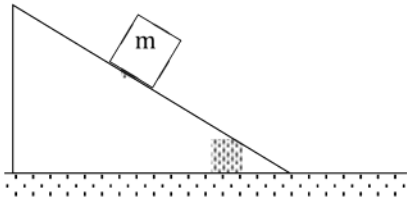
$a = 1.266 \text{ m/s}^2 \text{ [diff]}$

$(\rightarrow) (1.266 \text{ m/s}^2)$
 $T_2 = 82.2 \text{ N}$

$1_2 - 10.8$

Physics 12 – Incline Net Force (w/ multiple objects)

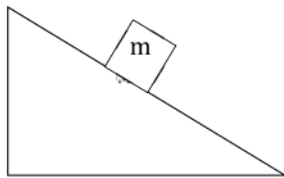
1. Ramp with friction, Block begins at rest.
 $\mu_k=0.25$, $\mu_s=0.30$, $\theta = 20^\circ$
 $m = 2.5$ kg Find a , F_f



$= ma$

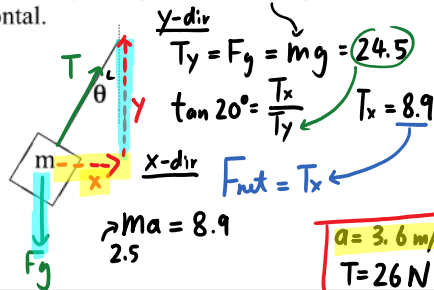
$a = 1 m$

2. Ramp with friction, Block begins at rest.
 $\mu_k=0.40$, $\mu_s=0.50$, $\theta = 20^\circ$
 $m = 2.5$ kg Find a , F_f

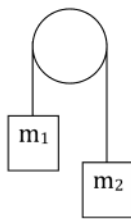


$F_{fs} = 11.5$
 $a = \emptyset$

3. Mass pulled by string. Mass is 2.5 kg, $\theta = 20^\circ$
 a is horizontal.
 Find a , F_T

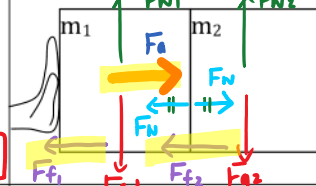


4. Frictionless pulley. $m_1 = 2.0$ kg, $m_2 = 1.5$ kg
 Find a

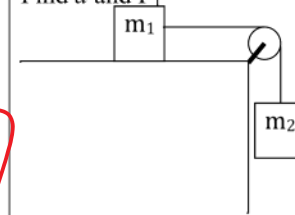


$a = 1.4 m/s^2$

5. Friction on surface, $\alpha = 0 \Rightarrow F_{net} = \emptyset$
 $m_1 = 4$ kg, $m_2 = 6$ kg,
 Force of hand pushing on $m_1 = 50 N$. $F_a = F_{f1} + F_{f2}$
 Find μ , F_N between the blocks
 $50 N = \mu F_{N1} + \mu F_{N2}$
 $50 N = \mu [4g + 6g]$
 $\mu = 0.51$
 $a = 0 \Rightarrow F_N = F_{f2}$
 $F_N = \mu(6g)$
 $F_N = 30 N$

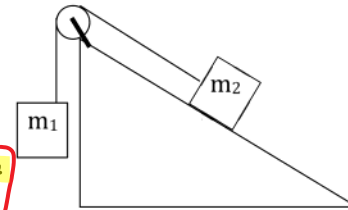


6. Table with friction, Blocks start at rest
 $m_1 = 1.5$ kg, $m_2 = 3.0$ kg, $\mu_s=0.6$, $\mu_k=0.4$
 Find a and F_T

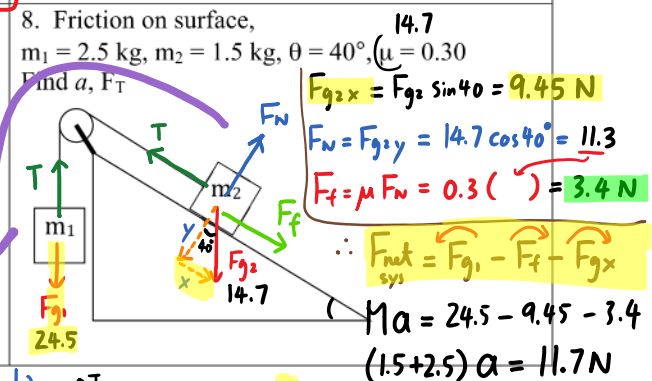


$a = 5.2 m/s^2$
 $T = 13.7 N$

7. Frictionless
 $m_1 = 1.5$ kg, $m_2 = 2.5$ kg, $\theta = 20^\circ$
 Find a , F_T



8. Friction on surface, $\theta = 40^\circ$, $\mu = 0.30$
 $m_1 = 2.5$ kg, $m_2 = 1.5$ kg,
 Find a , F_T



New Unit Next class

print notes **Torque**

Quiz # 2 on
 Friday.

Assignment Due on Friday

* Next Re test Date : Nov 16 (Friday)