Friday, September 14/12
Physics 122/121

1. Text: C5 - Page 174, PP #17
   Page 208, PP #24 and 25
   Page 209, PP #36

   } Type I

2. Force Problems - Type II

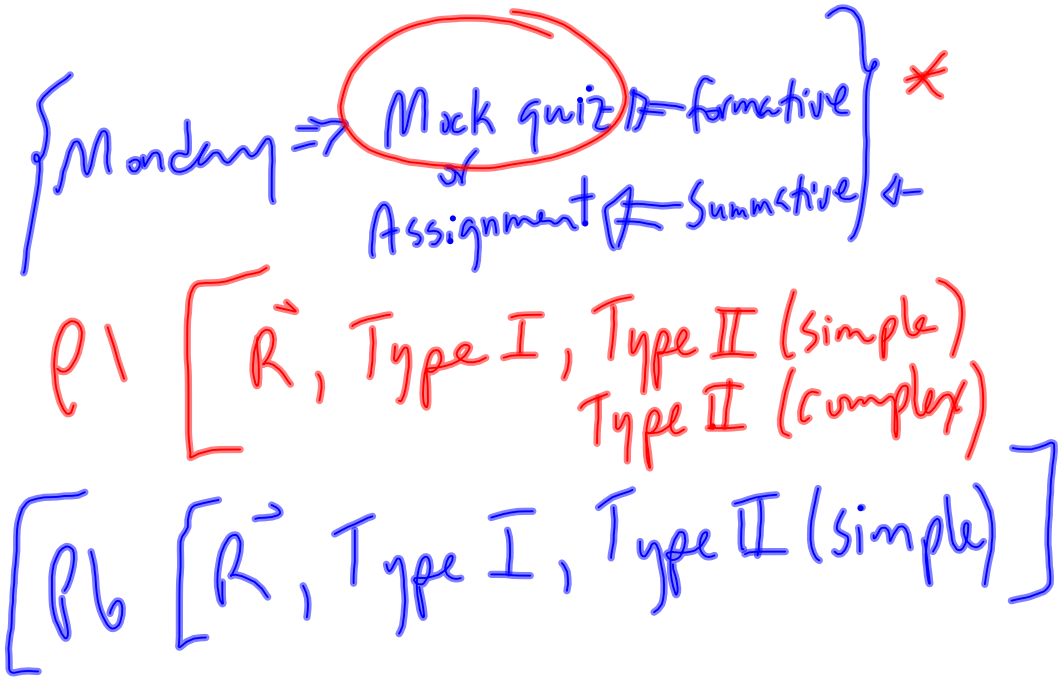
3. Handout - Type II Force Problems (Simple)
   Type II Force Problems (More Complex) x 2

4. Force Problems - Type III

P1 HW - Second Example and Prepare for Mock Quiz
P6 HW - Type II Handout and Prepare for Mock Quiz

---

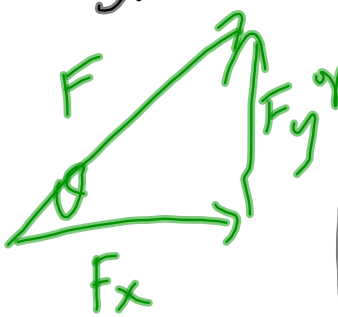
5. Text: C5 - Page 191, PP 24, 25
   Page 194, PP 27, 28

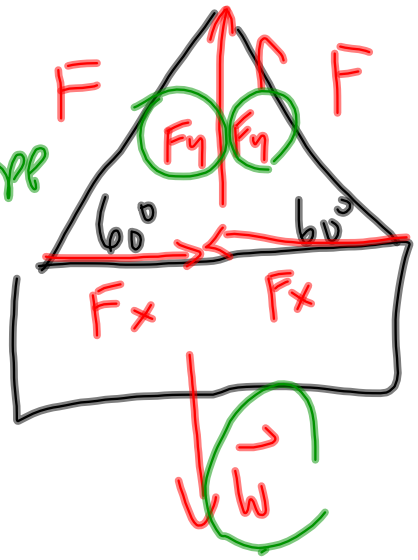


Type II - Simple

m = 10kg

#3.

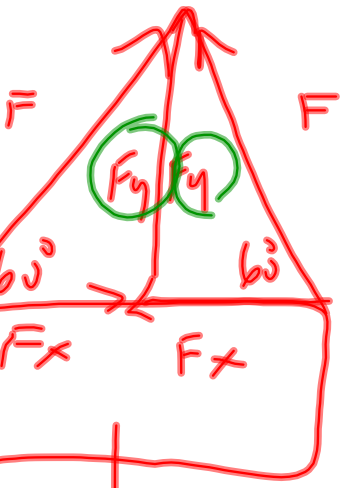




$2F_y - W = 0$

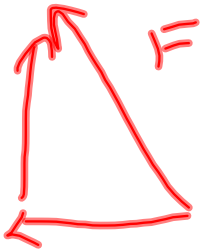
$2F\sin\theta = mg$

$2\sin\theta \quad 2\sin\theta$



$F_y + F_y - W = 0$

$2F_y - W = 0$



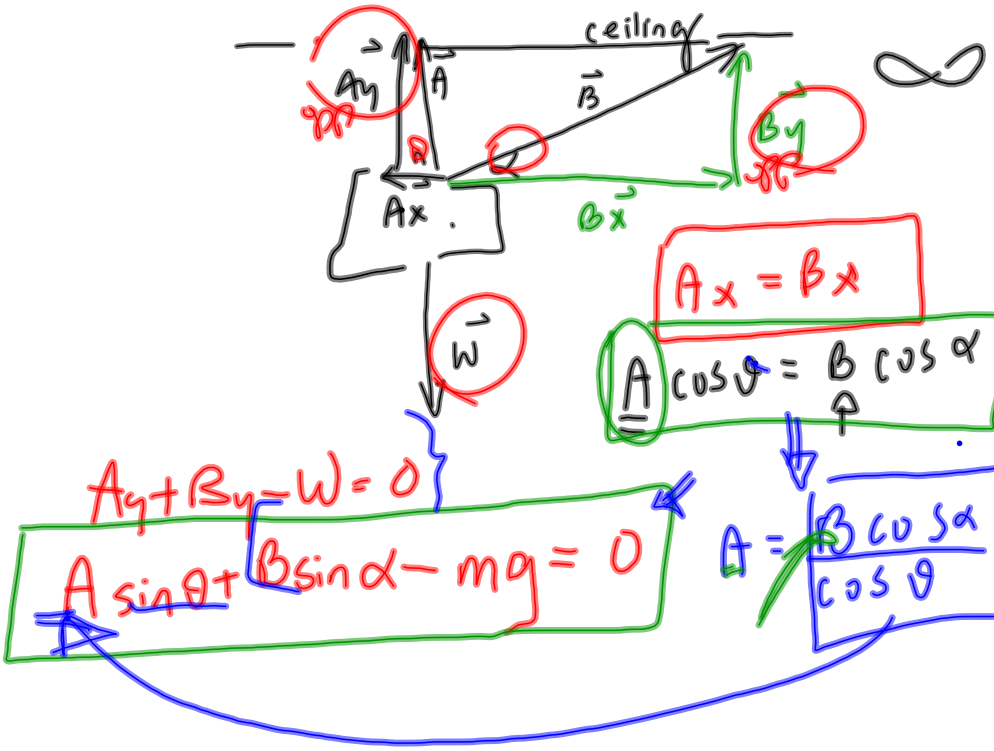
$F_x - F_x = 0$

$F_y = F\sin 60°$

$2(F_y - W = 0)$

$2F\sin 60° = mg$

Type II Force Problems (Complex)



$$\frac{B\cos\alpha}{\cos\theta}\sin\theta + B\sin\alpha - mg = 0$$

Aside $\left[\frac{\sin\theta}{\cos\theta} = \tan\theta\right]$ trig identity

$$B\cos\alpha\tan\theta + B\sin\alpha - mg = 0$$

$$B\cos\alpha\tan\theta + B\sin\alpha = mg$$

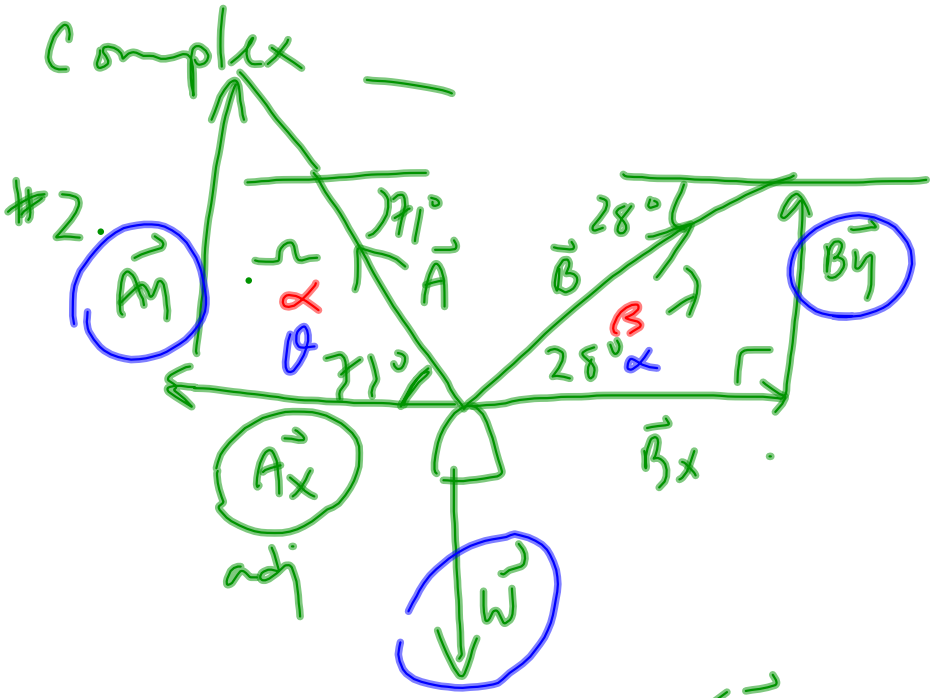
$$B(\cos\alpha\tan\theta + \sin\alpha) = mg$$

$$B = \frac{mg}{\cos\alpha\tan\theta + \sin\alpha}$$

$B =$ [ ] N

Complex

#2.



$\vec{F}_{net_x} = m\vec{a}_x$

$-A_x + B_x = 0$

$-A\cos 71° + B\cos 28° = 0$

$A = \dfrac{B\cos 28°}{\cos 71°}$

$\vec{F}_{net_y} = m\vec{a}_y$

$+A_y + B_y - W = 0$

$A\sin 71° + B\sin 28° - mg = 0$

$B = \dfrac{mg}{\cos 28° \tan 71° + \sin 28°}$

$B = 84\,N$

$A = \dfrac{84\cos 28°}{\cos 71°}$

$A = 2.3 \times 10^2\,N$