Friday, September 21/12
Physics 122/121

Student Information Profiles
Sept. 21/12

1. Force Problems - Last Chance
2. Torque/Net Torque

Stopped Here P6

3. Static Equilibrium Revisited
4. Gantry Cranes - Video/Worksheet
5. Steps for Solving Static Equilibrium Problems
6. Static Torque Examples

Stopped Here P1

7. Handout - Torque
8. Textbook - Page 501 #31
   Page 529 #27
9. Another Example (More Complex)
10. Textbook - Page 501 #33 (a)
    Page 529 #28 (a)
11. Handout - More Torque Problems

Test - Monday -> Next Week

1. $\vec{R}$
2. Type I
3. Type II (complex)
4. Type III

Force Problems

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

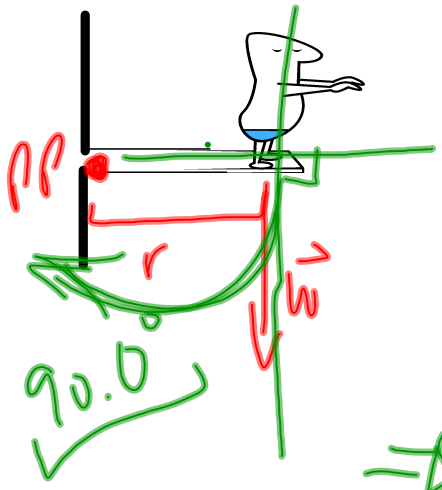
Handouts - Type II Force Problems (Simple)
Type II Force Problems (More Complex) x 2

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

Handout - Type I, II and III

Label the Pivot Point

Example: A 490 N man stands at the end of a diving board at a distance of 1.5 m from the point at which it is attached to the tower. What is the torque the man exerts on the board? (735 Nm, CW or -735 Nm)



$W = 490\,N$

$r = 1.5\,m$

$\tau = rF\sin\theta$

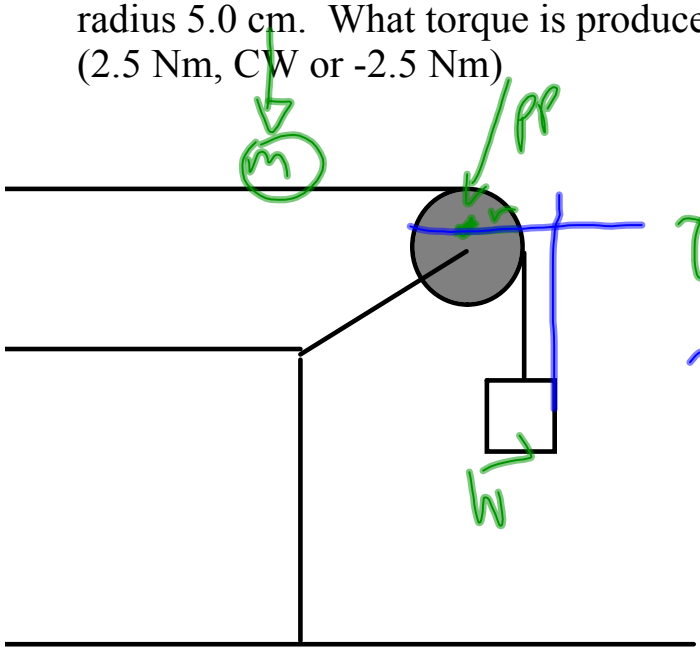
$\tau = rW\sin\theta$

$\tau = (1.5\,m)(490\,N)\sin 90.0°$

$\Rightarrow \tau = 7.4\times10^{2}\,Nm$

$\vec{\tau} = 7.40\times10^{2}\,Nm$ CW

Example: A 5.0 kg mass is attached as shown to a pulley of radius 5.0 cm. What torque is produced by the mass? (2.5 Nm, CW or -2.5 Nm)



$\tau = rF\sin\theta$

$\tau = (0.05\,m)(5.0)(9.80)\sin 90.0°$

$\tau = 2.5\,Nm$, CW

Example: A massless board serves as a seesaw for two giant hamsters as shown below. One hamster has a mass of 30 kg and sits 2.5 m from the pivot point. At what distance from the pivot point must a 25 kg hamster place himself to balance the seesaw? (3.0 m)