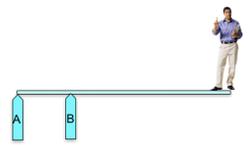
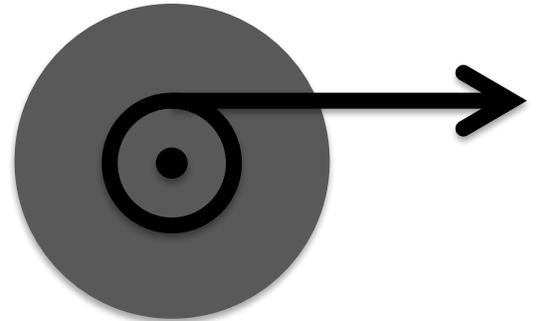


## Problem set #6

- 1) You will not solve this problem! You are graded on your narrative, setting up the problem and reflecting on what you think from your experiences. I stand at the end of an 8 m diving board with 2 m between pylons A and B. I have a mass of 70 kg and the board is a uniform plank of mass 30 kg. Find the force provided by Pylon A and Pylon B (including direction) while explaining your reasoning with a drawing *of your own*. Please find the forces on pylons A and B. Indicate if these forces are up or down.



- 2) A concrete flywheel of uniform thickness has a mass of 50 kg and a radius of 40 cm. If I pull on the string with a force of 100 N that is wound around a pulley of radius 16 cm.
- what will be the angular velocity,  $\omega$  after 10 s? Remember, no credit without lens.
  - What if instead of pulling for 10 s, I ask you to find the final angular velocity,  $\omega$  after pulling 2 meters of string. Would this change the lens that you would look through? *Hint*: “yes, it changes the lens”. Please find the final angular velocity,  $\omega$ .
  - Just as we did in linear problems, knowing the final  $\omega$ , please find the average angular velocity, the time it took to pull the string and the average power output.



- Chapter 5.0, Exercise 1
- Chapter 5.1, Exercise 1
- Chapter 5.2, Exercise 2
- Chapter 5.3, Do exercise 1 and 2, but don't hand it in.
- Chapter 5.3, Exercise 4
- Chapter 5.3, Exercise 6
- Chapter 5.3, Exercise 7
- Chapter 5.4, Exercise 3