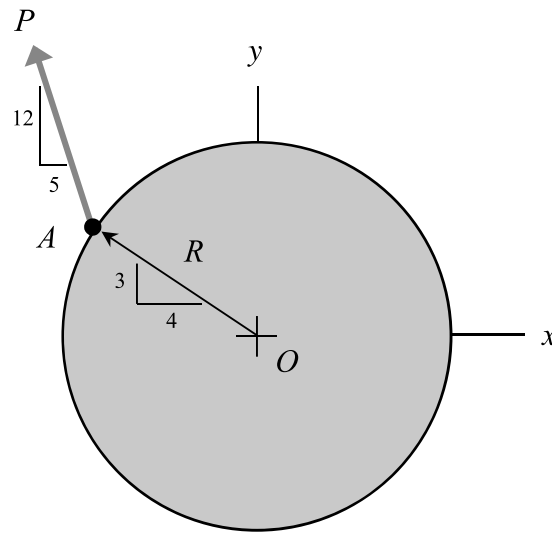


**Homework Problem H6.A**

**Given:** A force  $P$  acts on the perimeter of a circular disk.

**Find:** For this problem:

- Determine the moment arm of  $P$  about the center of the disk,  $O$ . Express your answer in terms of the disk radius  $R$ .
- Using the moment arm found in a), determine the moment of that  $P$  exerts on the disk about point  $O$ . Express your answer as a vector in terms of  $P$  and  $R$ .
- Using a vector cross product, determine the moment that  $P$  exerts on the disk about point  $O$ . Compare your answer with what you found in Part b).



**Homework Problem H6.B**

**Given:** Cables BC and AD carry tensions of  $T$ , and  $2T$ , respectively.

**Find:** For this problem:

- Determine the moment about point O due to the force of cable CB on the boom.
- Determine the moment about point O due to the force of cable DA on the boom.

Use  $\theta = 70^\circ$  and  $\phi = 30^\circ$ . Express your answers as vectors in terms of  $T$  and  $d$ .

