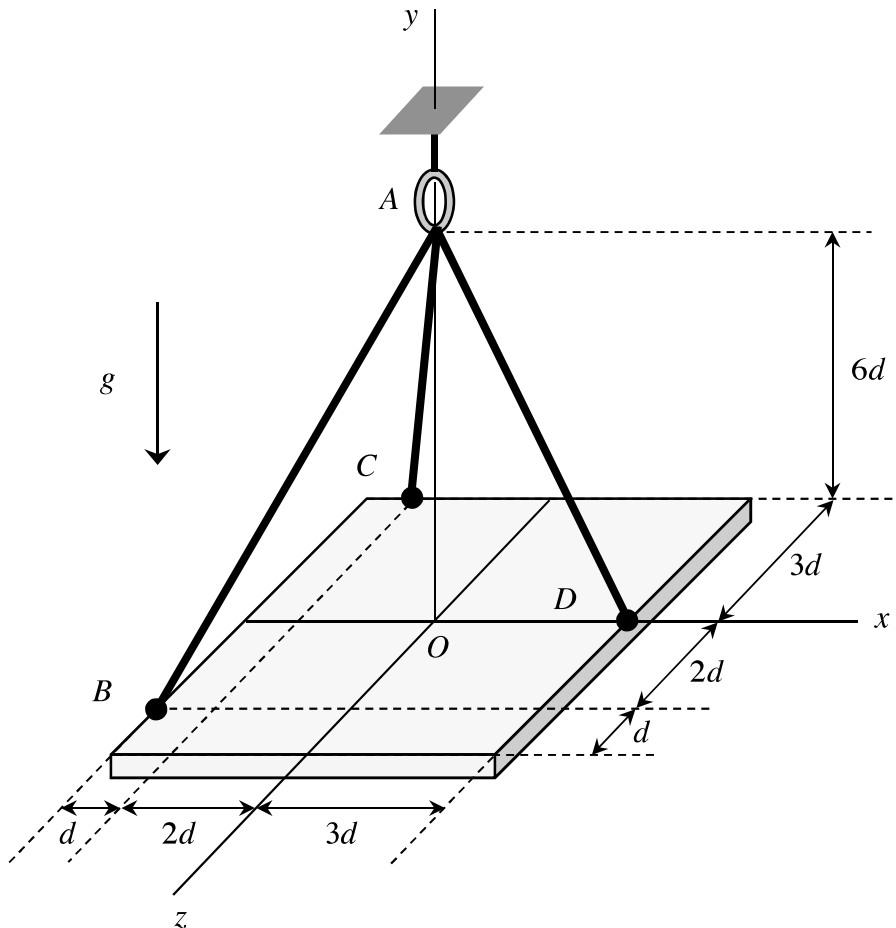


**Homework H5.A**

**Given:** A homogenous plate, having weight of  $W$  and its center of mass at point  $O$ , is supported by three cables:  $AB$ ,  $AC$  and  $AD$ . The plate center of mass  $O$  is directly below the support ring  $A$ . Each cable is capable of carrying a maximum tensile load of  $T_{\max}$  without failure.

**Find:**

- Determine the tension in each cable in terms of the plate weight  $W$ .
- Which cable carries the largest tension?
- Determine the numerical value of the maximum plate weight that can be supported without failure. Express your answer in terms of  $T_{\max}$ .



**Homework H5.B**

**Given:** A light fixture, having weight of  $W$ , is supported by three cables: CA, CB and CD.

**Find:** Determine the tension in each cable. Leave your answers in terms of the light fixture weight  $W$ .

