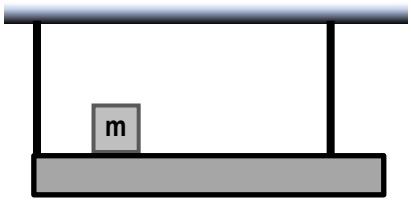
EQUILIBRIUM WITH MULTIPLE SUPPORTS

● When an object in Equilibrium has MULTIPLE supports, we can think of each support point as a potential _____.



- Therefore, we can write _____ for ANY point support, which means treating it as the _____.

- In fact, we can write _____ for ANY point, even points that are not the _____ or _____ points!

- Since you can choose your "reference axis" in writing _____ equations, you'll want to pick *the easier ones*.

- Remember that forces acting ON an axis produce NO torque → So pick points with the most forces on it!

EXAMPLE: A board 6 m in length, 12 kg in mass, and of uniform mass distribution, is held by two light ropes, one on its left edge and the other 1 m away from its right edge, as shown in the first image. An 8 kg object is placed 1 m from the left end. Calculate the tension of each rope.

PRACTICE: EQUILIBRIUM WITH MULTIPLE SUPPORTS

PRACTICE**:** A board 8 m in length, 20 kg in mass, and of uniform mass distribution, is supported by two scales placed underneath it. The left scale is placed 2 m from the left end of the board, and the right scale is placed on the board's right end. A small object 10 kg in mass is placed on the left end of the board. Calculate the reading on the left scale**.**

→ BONUS**:** Calculate the reading on the right scale**.**