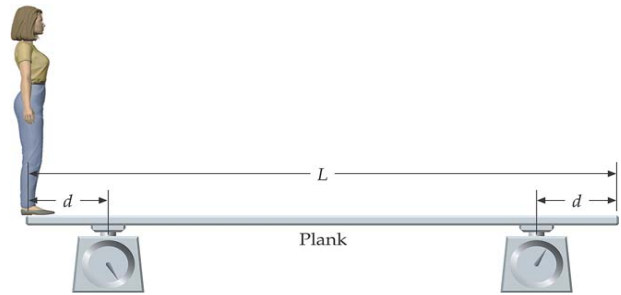


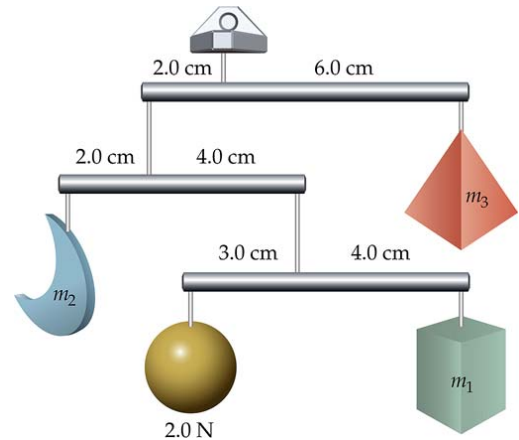
D 1) Consider the illustration at right. Which of the following statements about the illustration is *false*?

- A) There are no forces acting along the x-axis.
- B) The y-components of all the forces acting in the illustration must sum to zero.
- C) The total torques around *any* axis running through the plank must sum to zero.
- D) Today's discussion is not relevant to this picture because the downward force of the woman's weight is not aligned with either of the supporting scales.
- E) The plank may have a mass which is less than that of the woman.



C 2) What is the *weight* of mass #2 (blue moon) in the illustration at right? You may assume that all the bars are horizontal.

- A) 1.75 N
- B) 3.50 N
- C) 7.00 N
- D) 10.50 N
- E) 14.00 N



E 3) When dealing with an extended rigid object (a bar, a square, etc) the force of gravity operating on the object can be treated as:

- A) Generating a torque between the CM and the ends of the object.
- B) Pulling along the length of whatever cord or wire is supporting the object.
- C) As “mg” multiplied by the distance of the CM from the origin.
- D) The treatment must vary, depending on the moment of inertia of the object.
- E) Pulling straight down on only the CM of the object.

B 4) You are considering what axis you should use to calculate the torques in a statics problem. Your decision is determined by the fact that:

- A) One and only one axis point can yield the correct answer.
- B) A point at which an unknown force is acting is often a good spot to place an axis.
- C) A point at which an unknown force is acting is usually the worst spot to place an axis.
- D) The rotation axis must always be placed at the edge of a object.
- E) The rotation axis cannot be placed at the CM of an object.