

Section
8-2

HOLT PHYSICS

Diagram Skills

Rotation and Inertia

Use the diagram at right to answer items 1–4.

1. If the figure above has a uniform density, which point best represents the center of mass?

2. Imagine that a small hole is cut in the block at the following locations, possibly causing the center of mass to shift. In each case, identify the point toward which the center of mass will move.

a. a single hole is cut at point 1: _____

b. a single hole is cut at point 4: _____

c. a single hole is cut at point 8: _____

d. a single hole is cut at point 5: _____

3. Now imagine that a small amount of mass is added at the following locations. Again, identify the point toward which the center of mass will move.

a. a single addition of mass is made at point 3: _____

b. a single addition of mass is made at point 2: _____

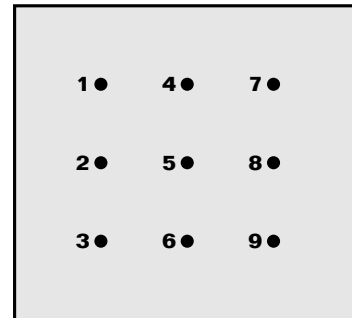
c. a single addition of mass is made at point 6: _____

d. a single addition of mass is made at point 5: _____

4. If a force is applied at point 1 to the right the force will exert a clockwise torque on the object.

a. Which two points define the lever arm for this situation? _____

b. Where and in what direction should an equal force be applied to keep the object in equilibrium?



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