

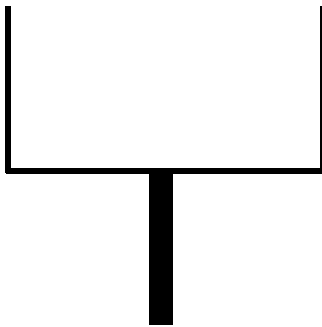
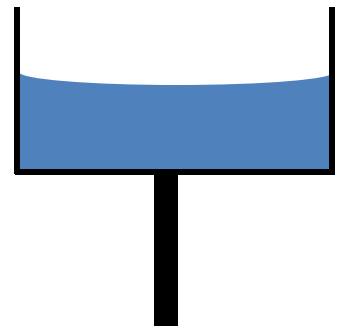
**Spin Casting** – Worksheet to follow the viewing of the demonstration movie available at:

<http://astro.unl.edu/video/demonstrationvideos>

**Part A:** Rank each of the following steps in the chronological order that they occur in the spin casting process. You may rank simply use numbers 1 through 6 for ranking where 1 occurs first.

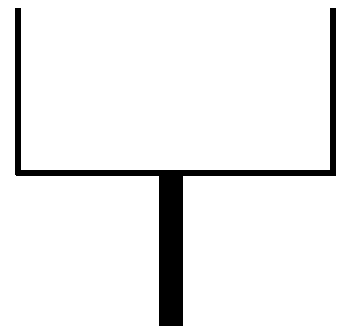
- \_\_\_\_\_ Raise temperature to melt glass
- \_\_\_\_\_ Have spin caster slowly decrease its rotation rate to zero
- \_\_\_\_\_ Make precise adjustments to the surface of the mirror
- \_\_\_\_\_ Lower temperature to allow glass to solidify
- \_\_\_\_\_ Place “special glass” chunks in spin caster
- \_\_\_\_\_ Have spin caster start rotating and increase the rotation rate to some predetermined value

**Part B:** The “rectangular fishtank” apparatus shown in the movie is approximately half- filled with water. Rotation begins and the apparatus is shown in the diagram to the right rotating at 10 rev/min.



- It is learned experimentally, that all of the water (just barely) stays within the apparatus when it is rotating at 30 rev/min. Draw in the water line (and shade the water) for the apparatus to the left rotating at that speed.

- The rate of rotation is now slowed to 20 rev/min. Draw in the water line (and shade the water) for the apparatus to the right rotating at that speed.



- The rate of rotation is now increased to 45 rev/min. Discuss with your neighbor and try to reach consensus on predicting what is likely to happen and then write a short description below.

- Imagine that the rotating apparatus was filled with molten glass (and it survives ;-). How would that affect the curvature results described above? Write a short description below.