- Assignment 7 due on February 25
- Assignment 8 due on March 4
- Test 4 opens on March 12

- TODAY: Volumes

- WEDNESDAY: More volumes **(Video 10.2)**
- Unit 10 practice problems: other applications

Sphere

You know the formula for the volume of a sphere with radius R. Now you are able to prove it!

1. Write an equation for the circle with radius R centered at $(0, 0)$.
2. If you rotate this circle around the x-axis, it will produce a sphere. Compute its volume as an integral by slicing it like a carrot.

Pyramid

Compute the volume of a pyramid with height H and square base with side length L.

Hint: Slice the pyramid like a carrot with cuts parallel to the base.

Many axis of rotation

Let R be the region in the first quadrant bounded between the curves with equations $y = x^3$ and $y = \sqrt{32x}$.
Compute the volume of the solid of revolution obtained by rotating R around...

1. ... the x-axis
2. ... the y-axis
3. ... the line $y = -1$