**7.3 - solids**

**CROSS SECTIONS :**

If you cut a cylinder , what shape of a slice do you get?

It depends in what direction!!

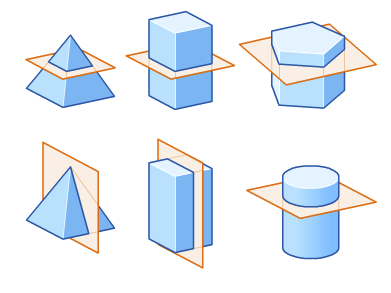
If you cut it perpendicular to its length, you get a circle.

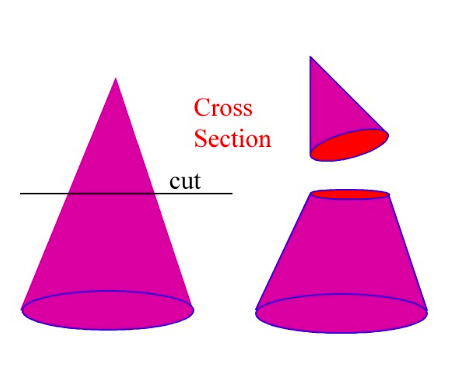
If you cut it perpendicular to its base, you get a rectangle.

The shape of the slice is called a cross section of a shape.

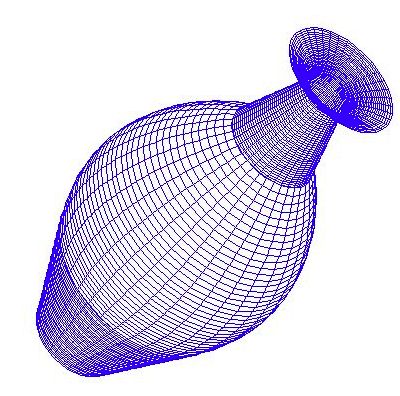
What is the cross section of a square based pyramid :

* Perpendicular to its base ?
* Parallel to its base ?



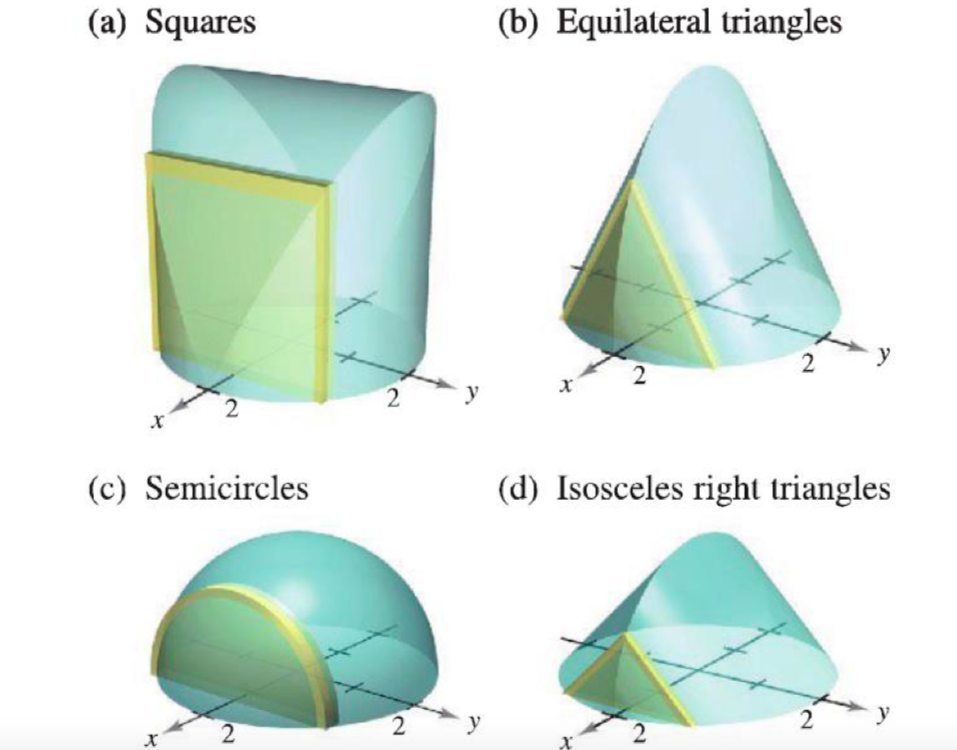


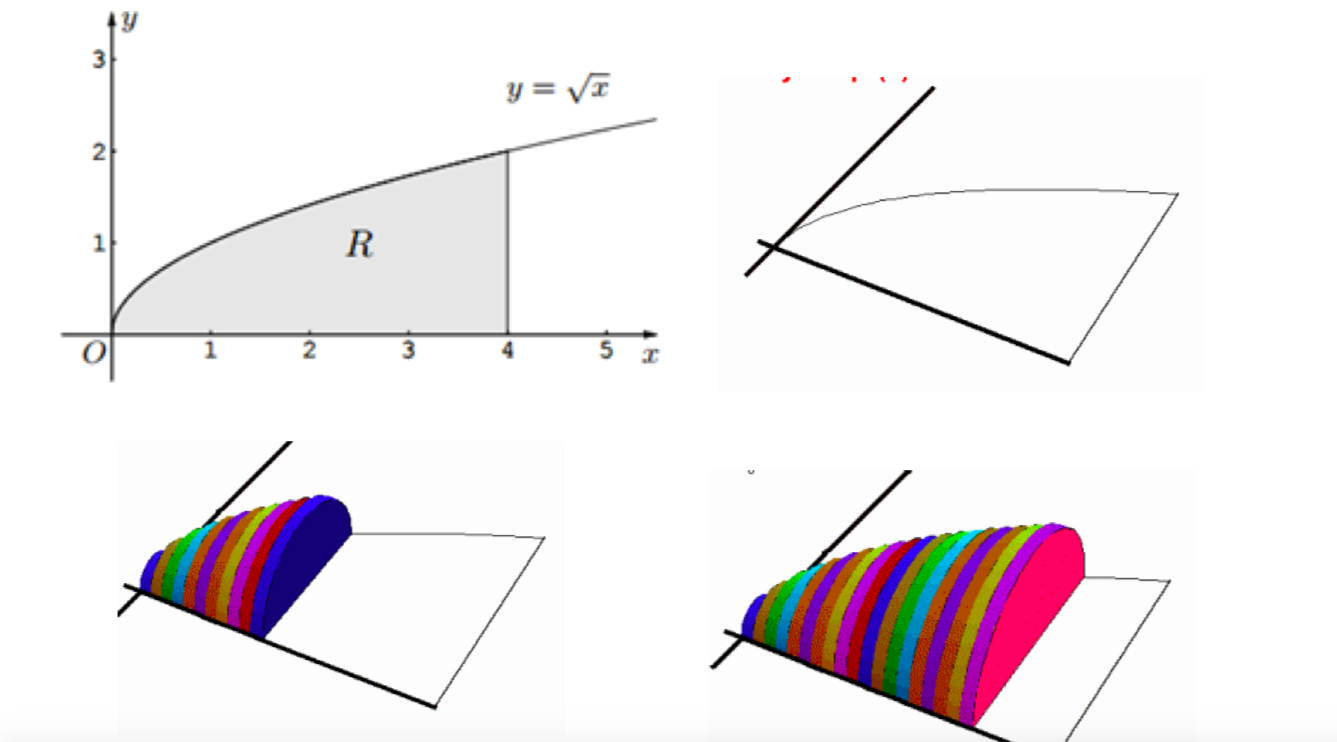
We are going to determine the volumes of objects for which the cross sections are always the same :



And describe their base using functions…

For example : If we want the base of our solid to be a circle, here are the different solids depending on the shape of the cross sections :





**Animation Geogebra :**

<https://www.geogebra.org/m/YpqytNph#material/XArpgR3A>

**Lesson University of Houston :**

<https://online.math.uh.edu/HoustonACT/videocalculus/H.264/27-volumes1-H264.mov>

**SOLIDS OF REVOLUTION :**

**Animation geogebra :**

<https://www.geogebra.org/m/hhRJQyz9>

**Lesson Univerity of Houston :**

<https://online.math.uh.edu/HoustonACT/videocalculus/H.264/28-volumes2-H264.mov>