0B. Volume of Revolutions. Let's say we revolve some region in the xy-plane around an axis of revolution so we get a solid of revolution. Next we want to find the volume of this solid of revolution.

- **In parts a,** fill in the blanks with: x or y.
- **In parts b and c,** fill in the blanks with a formula involving *some of*:
  2 , π , radius , radius$_{\text{big}}$, radius$_{\text{little}}$, average radius , height , and/or thickness .

▶. <u>Disk/Washer Method</u>. Let's find the volume of this solid of revolution using the disk or washer method.

a. If the axis of revolution is:
- the x-axis, or parallel to the x-axis, then we partition the _____ −axis.
- the y-axis, or parallel to the y-axis, then we partition the _____ −axis.

b. If we use the **disk method**, then the volume of a typical disk is:

_____ .

If we use the **washer method**, then the volume of a typical washer is:

_____ .

c. If we partition the z-axis, where z is either x or y, the Δz is the _____ .

▶. <u>Shell Method</u>. Let's find the volume of this solid of revolution using the shell method.

a. If the axis of revolution is:
- the x-axis, or parallel to the x-axis, then we partition the _____ −axis.
- the y-axis, or parallel to the y-axis, then we partition the _____ −axis.

b. If we use the **shell method**, then the volume of a typical shell is:

_____ .

c. If we partition the z-axis, where z is either x or y, the Δz is the _____ .