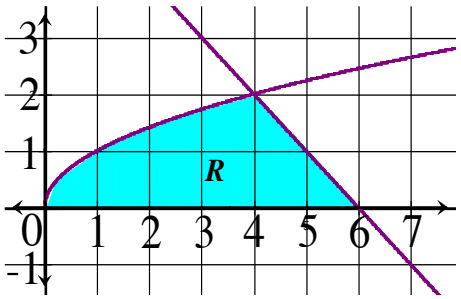
AP Topics Area / Volume Review

Name _____

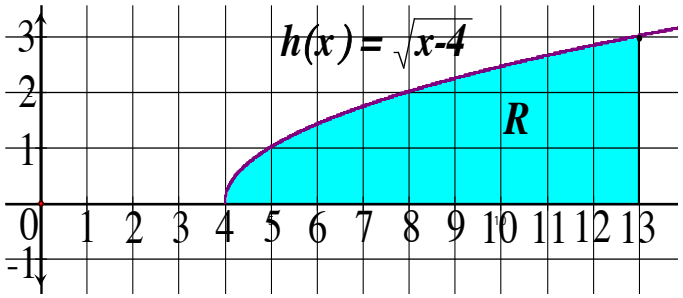
1) **Set up** the area between $f(x)=\sqrt{x}$ and $f(x)=6-x$ from $[0,6]$.



a) Using vertical cross sections

b) Using horizontal cross sections

c) **Set up** the volume V of the solid with base R whose horizontal cross sections are squares.



2) **Set up** the area of the enclosed region between $h(x)=\sqrt{x-4}$ and the x - axis from $[4,13]$.

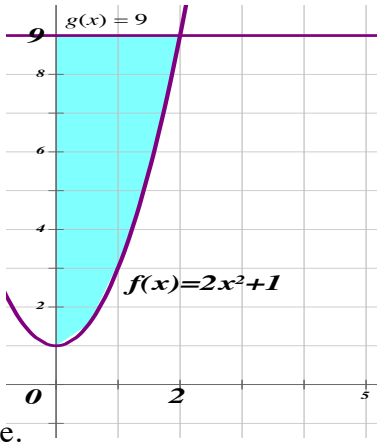
a) Using vertical cross sections

b) Using horizontal cross sections

Set up the volume V of the solid with base R whose vertical cross sections are:

c) semicircles.

d) equilateral triangles



3) Region between $f(x)=2x^2+1$, $g(x)=9$ and the y-axis. Set up each volume.

a) Revolving enclosed region about the x-axis.

b) Revolving enclosed region about the y-axis.

c) Revolving enclosed region about line $x=12$.

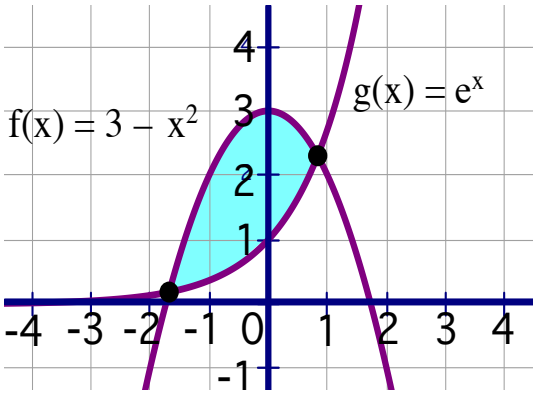
d) Revolving enclosed region about line $x=-7$.

e) Revolving enclosed region about line $y=15$.

f) Revolving enclosed region about line $y=-4$.

4) $y=3-x^2$ $y=e^x$

a) Find the Area A of the region R.



b) The volume V of the solid with base R whose depth is $10-x$.

c) The volume V of the solid with base R whose vertical cross sections are equilateral triangles.