CALCULUS AB WS #1 CH.7 Name_____ Per.____

1) Let R be the enclosed region between the graph of f and the x-axis on the given interval.

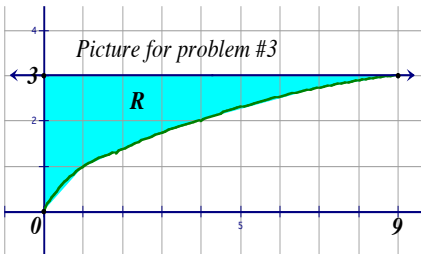
$f(x)=\sqrt{2x^2+3}$; $[1,2]$ **(Show work)**

a) Find the volume V of the solid obtained by revolving R about the x-axis.

b) Find the volume V of the solid generated by revolving R about the y-axis.

2) Find the area between graphs on interval. **(Show work)**

$f(x)=x$ $g(x)=\sqrt{x}$ $[0,4]$



3) Given the above region R between the graph of $f(x)=\sqrt{x}$ and $g(x)=3$. **(Set up and use your calculator)**

a) Find Area using vertical cross sections

b) Find Area using horizontal cross sections

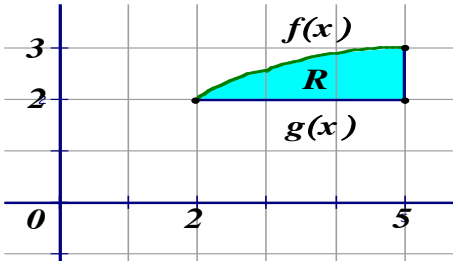
Find the volume of the solid whose base is the region between *f(x)* and $g(x)$ and whose cross sections cut by planes perpendicular to the *y*-axis are :

c) squares

d) rectangle (height=10 · base)

e) equilateral triangles

4) Set up the following volumes for the shaded region to the right.
(**Set up only**)



a) volume about *x*-axis

b) volume about *y*-axis

c) vol. about line $x = 8$

d) vol. about line $y = -5$

e) vol. about line $x = -3$

f) vol. about line $y = 8$

g) vol. about line $y = 1$

h) vol. about line $x = 2$

Set up the volume of the solid whose base is the shaded region and whose cross sections cut by planes perpendicular to the *x* - axis are :

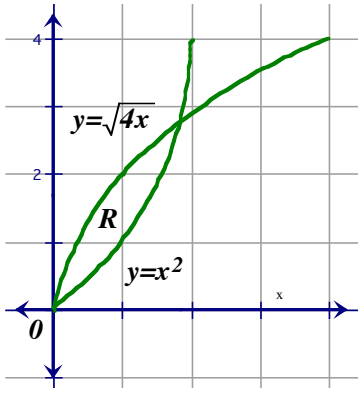
i) squares

j) rectangle ($h = 10 - x$)

k) semicircles

5) Let R be the enclosed region between the graph of $f(x) = \sqrt{4x}$ and $g(x) = x^2$.
(**Set up and use calculator**)

a) Find the volume V of the solid obtained by revolving R about the line $y = -7$.



b) Find the volume V of the solid obtained by revolving R about the line $x = 10$.

c) Find the volume V of the solid obtained by revolving R about the line $y = 20$.

Find the volume V of the solid whose base is the region between $f(x)$ and the $g(x)$ and whose cross sections cut by planes perpendicular to the *x*-axis are :

d) semicircles

e) equilateral triangles