

CH.7 Review WS #1 Name _____ Per. _____

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

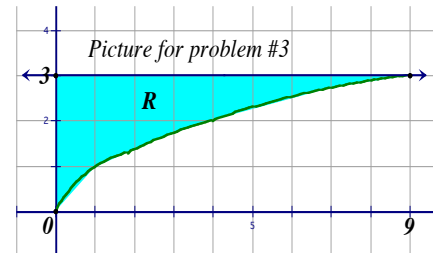
$$f(x) = \sqrt{2x^2 + 3} \quad ; \quad [1, 2] \quad \text{(Show work)}$$

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)

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



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)

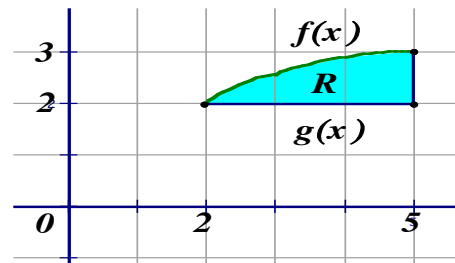
e) equilateral triangles

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 ($h = 10 - x$)

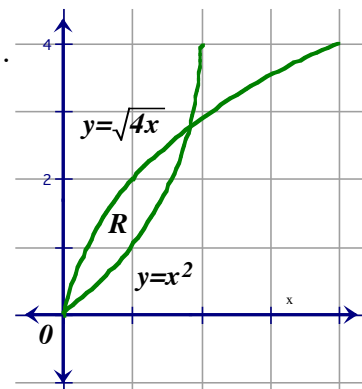
k) semicircles

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