

Integration Review - Example #1

Determine the area of the region bounded by the function below, the x -axis, and the given lines.

$$y = \frac{1}{x+2}, x = -1, x = 2$$

Integration Review - Example #2

Determine the area of the region bounded by the function below, the y -axis, and the given lines.

$$y = \sqrt{4-x}, y = 0, y = 2$$

Find the point(s) of intersection of the graphs of these functions.

a.) $y = 3x - 2$ and $y = x^2 - 2x + 4$

b.) $y = 1 - x$ and $y = \sqrt{2x + 1}$

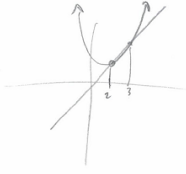
Find the point(s) of intersection of the graphs of these functions.

c.) $y = \frac{6}{x} + 3x$ and $y = x^3 - 5x$

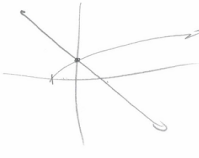
Find the point(s) of intersection of the graphs of these functions.

d.) $y = e^x$ and $y = 4x^2 - 3$

a. $3x-2 = x^2-2x+4$
 $x^2-5x+6=0$
 $(x-2)(x-3)=0$
 $x=2, 3$



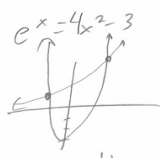
b) $1-x = \sqrt{2x+1}$
 $(1-x)^2 = 2x+1$
 $1-2x+x^2 = 2x+1$
 $x^2-4x=0$
 $x(x-4)=0$
 $x=0$ (EXTRANEAS SOL. $x=4$)



c) $\left(\frac{6}{x} + 3x = x^3 - 5x\right) \cdot x$
 $6 + 3x^2 = x^4 - 5x^2$
 $x^4 - 8x^2 - 6 = 0$
 $(x^2)^2 - 8(x^2) - 6 = 0$
 $x^2 = \frac{8 \pm \sqrt{64 - 4(1)(-6)}}{2}$
 $x^2 = \frac{8 \pm \sqrt{88}}{2}$
 $x^2 = \frac{8 \pm 2\sqrt{22}}{2}$
 $x^2 = 4 \pm \sqrt{22}$
 REAL SOLL.
 $x = \pm \sqrt{4 + \sqrt{22}}$
 $x = \pm 2.948$

~~AGLY~~

d.) $e^x = 4x^2 - 3$



GDC!!

$x = -0.922$
 $x = 1.286$