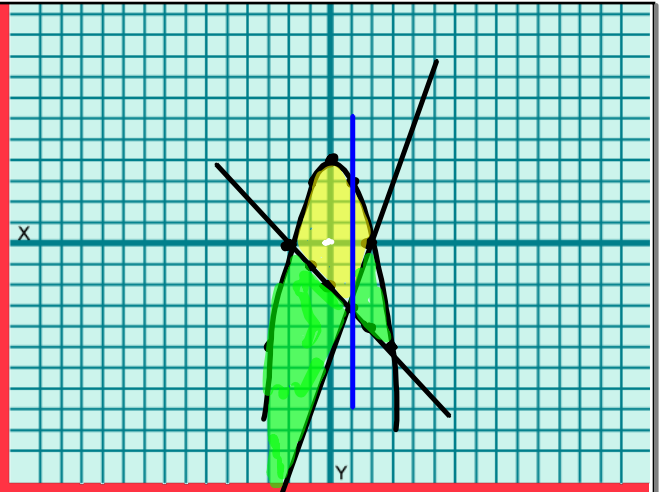


AREA 2

Find the area under $y = -x^2 + 4$
and above $y = -x - 2$ and
 $y = 3x - 6$.



$$\int_{-2}^1 [(-x^2 + 4) - (-x - 2)] dx + \int_1^2 [(-x^2 + 4) - (3x - 6)] dx$$

$$= \frac{50}{3} \text{ units}^2$$

Find the area between:

$$x + y^2 = 4 \quad \text{and} \quad x - y = -2$$

$$x = -y^2 + 4$$

↑ Right
4

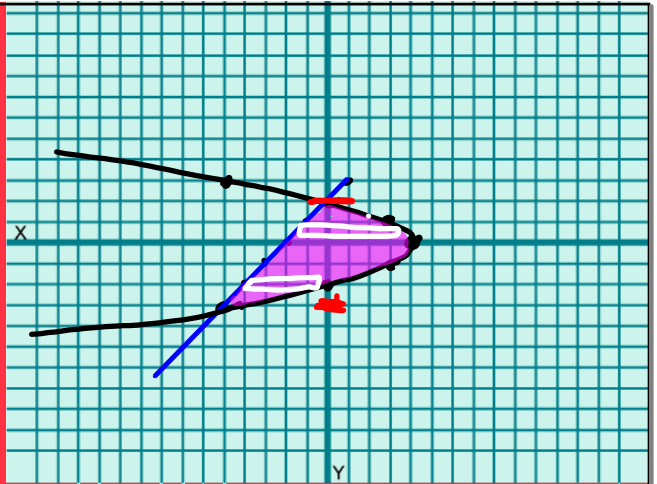
$$x = y - 2$$

0	0
4	1
9	3

$$x + 2 = y$$

$$\int_{-3}^2 [(-y^2 + 4) - (y - 2)] dy$$

$$= \frac{125}{6} \text{ units}^2$$



R-L
x =



Find area between

$$xy=1 \quad \text{and} \quad x+y^2=10.$$

$$y = \frac{1}{x}$$

$$x = -y^2 + 10$$

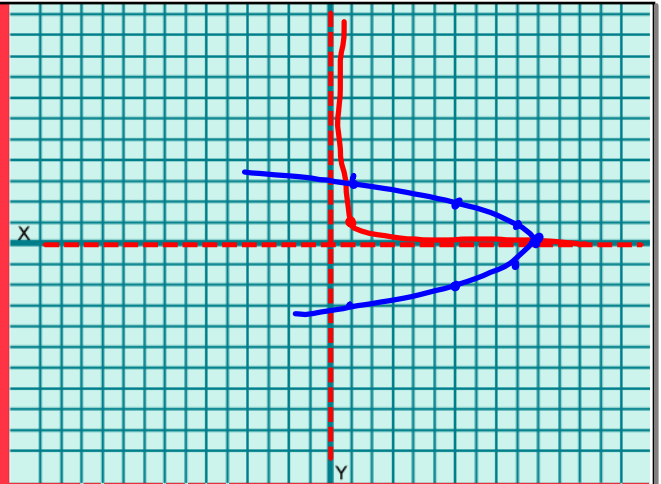
$$x = \frac{1}{y}$$

$$y \left[\frac{1}{y} = -y^2 + 10 \right]$$

$$1 = -y^3 + 10y$$

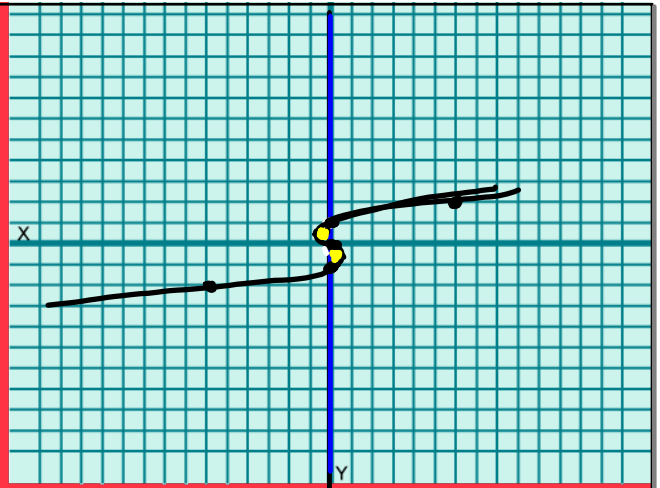
$$0 = -y^3 + 10y - 1$$

$$\int_{0.11}^{3.11} \left[(-y^2 + 10) - \frac{1}{y} \right] dy$$



$$g) \quad x = y^3 - y \quad x = 0$$

	y
0	0
0	1
6	2
$-1+1=0$	-1
$-8-2=-6$	-2
$\frac{1}{8} - \frac{1}{2} = -\frac{3}{8}$	$\frac{1}{2}$
$-\frac{1}{8} + \frac{1}{2} = \frac{3}{8}$	$-\frac{1}{2}$



$$\int y^3 - y - 0 \quad + \quad \int 0 - (y^3 - y)$$