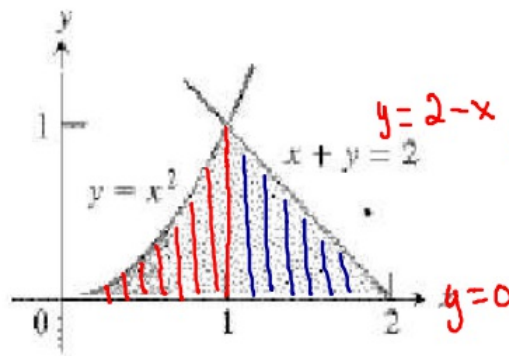


Find the area of the shaded region.

10.



$$A = \int_0^1 (x^2 - 0) dx + \int_1^2 (2 - x - 0) dx$$

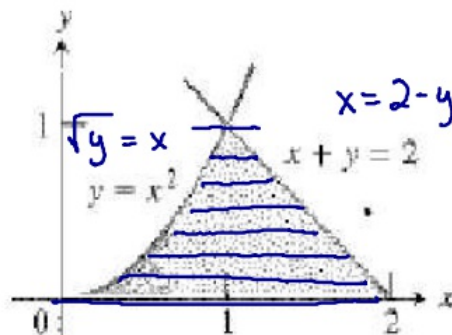
$$A = \left[ \frac{1}{3} x^3 \right]_0^1 + \left[ 2x - \frac{1}{2} x^2 \right]_1^2$$

$$\frac{1}{3} + \left[ 2 - 1.5 \right]$$

$$\frac{1}{3} + \frac{1}{2} = \frac{5}{6}$$

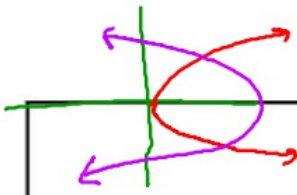
Find the area of the shaded region.

10.



$$A = \int_0^1 (2 - y) - y^{1/2} dy = \left[ 2y - \frac{1}{2} y^2 - \frac{2}{3} y^{3/2} \right]_0^1$$

$$= 2 - \frac{1}{2} - \frac{2}{3} = \frac{5}{6}$$



Right - Left

$$y = \pm\sqrt{x}$$

$$2y^2 = 3 - x$$

$$y = \pm\sqrt{\frac{3-x}{2}}$$

Find the area of the regions enclosed by the lines and curves

24.  $x - y^2 = 0$  and  $x + 2y^2 = 3$

Left

$$x = y^2$$

Right

$$x = 3 - 2y^2$$

$$\int_{-1}^1 (3 - 2y^2 - y^2)$$

$$\int_{-1}^1 (3 - 3y^2) = \left[ 3y - y^3 \right]_{-1}^1$$

Intersection

$$y^2 = 3 - 2y^2$$

$$3y^2 = 3$$

$$y^2 = 1$$

$$y = \pm 1$$

$$= (3 - 1) - (-3 + 1)$$

$$2 - (-2)$$

$$4$$

26.  $4x^2 + y = 4$  and  $x^4 - y = 1$