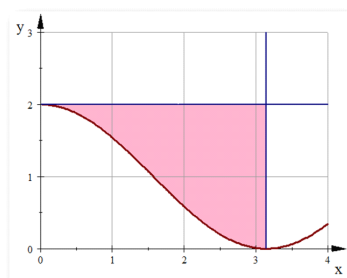
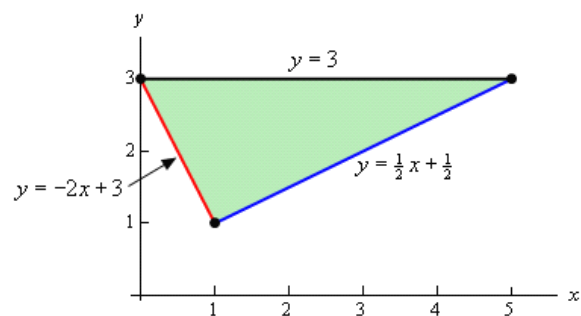
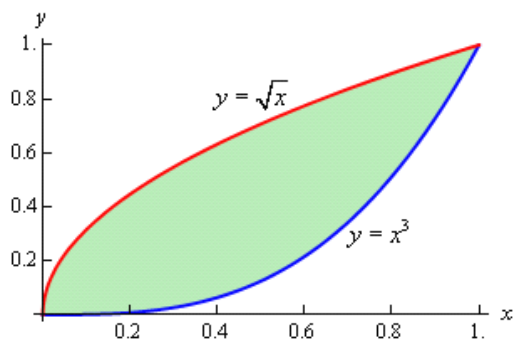


## Double Integrals

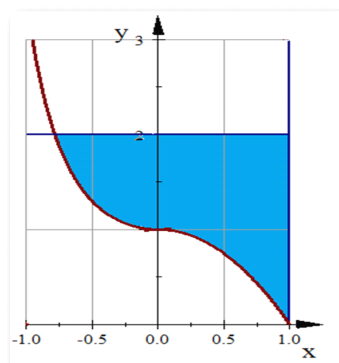
SET-UP then EVALUATE a double integral that would give the area of the given regions.



$$y = 1 + \cos x$$

$$x = \pi$$

$$y = 2$$

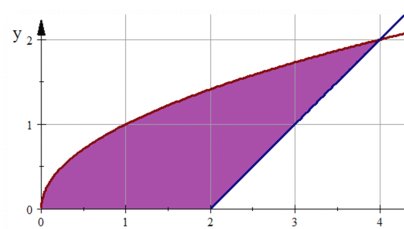


$$y = \sec^2 x$$

$$y = 1 - x^2$$

$$y = 2$$

$$x = 1$$



$$y = \sqrt{x}$$

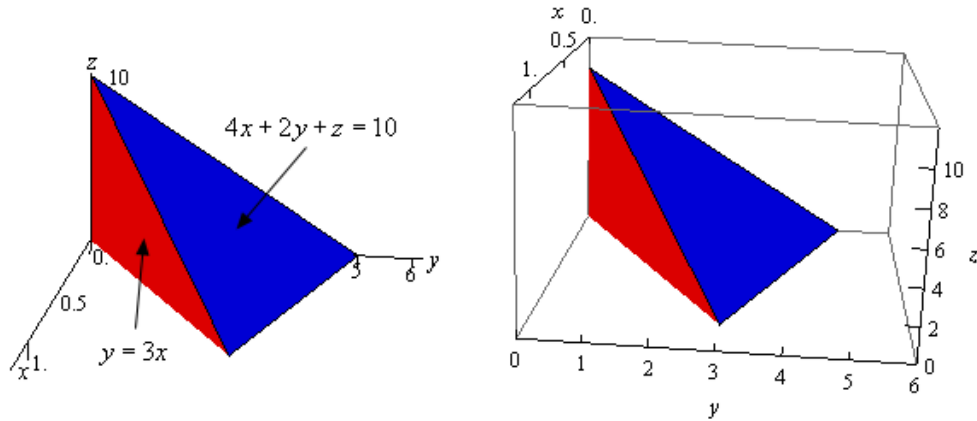
$$y = x - 2$$

$$x\text{-axis}$$

## Triple Integrals

SET-UP then EVALUATE a triple integral that would give the volume of the following solids.

- solid that lies below the surface given by  $z = 16xy + 200$  and lies above the region in the  $xy$ -plane bounded by  $y = x^2$  and  $y = 8 - x^2$ .
- solid enclosed by the planes  $4x + 2y + z = 10$ ,  $y = 3x$ ,  $z = 0$ ,  $x = 0$



- Tetrahedron defined by the plane  $2x + 3y + z = 6$  on the first octant
- region that lies behind the plane  $x + y + z = 8$  and in front of the region in the  $yz$ -plane that is bounded by  $z = \frac{3}{2}\sqrt{y}$  and  $z = \frac{3}{4}y$ .

