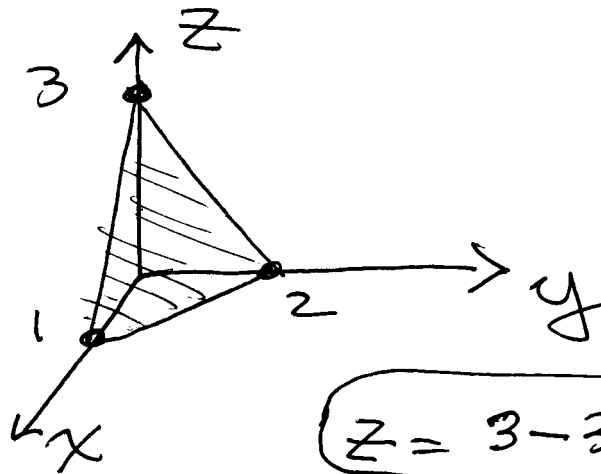


13.5

Ex: Find the volume of the tetrahedron cut from the first octant by the plane:

$$6x + 3y + 2z = 6$$

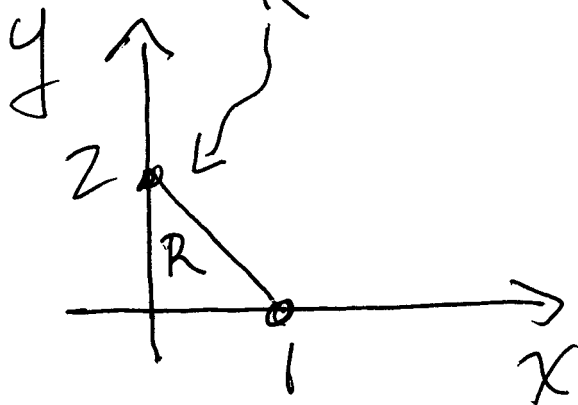


$$z = 3 - 3x - \frac{3}{2}y$$

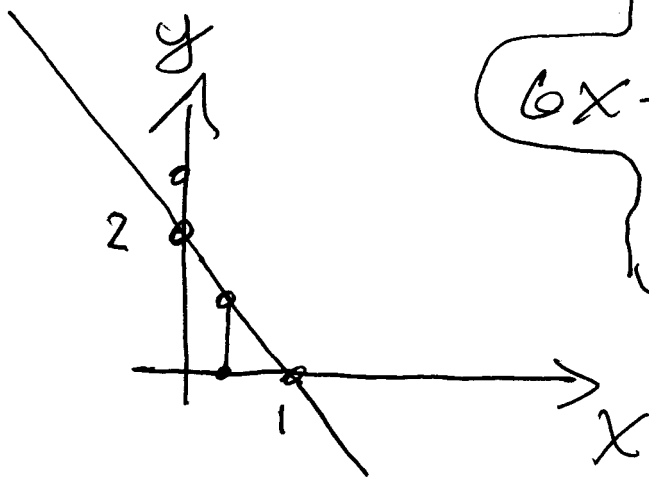
explicit form

double

$$\iint_R \left( \int 1 \, dz \right) dA$$



ex:



plane  $\downarrow$

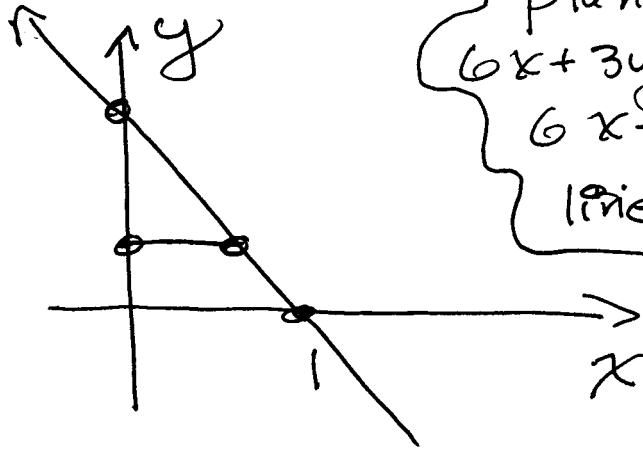
$$6x + 3y + 2z = 6$$
$$6x + 3y = 6$$

line  $y = 2 - 2x$

$$dA = dy dx$$

$$\int_0^1 \int_0^{2-2x} \int_0^{3-3x-\frac{3}{2}y} 1 dz dy dx$$

ex:



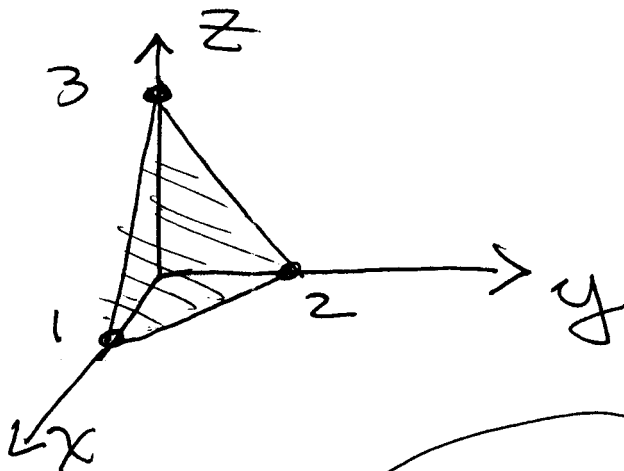
plane  $\downarrow$   $\circ$   
 $6x + 3y + 2z = 6$   
 $6x + 3y = 6$   
line  $x = 1 - y/2$

$$\int_0^2 \int_0^{1-\frac{y}{2}} \left( \int_0^{3-3x-\frac{3}{2}y} 1 \, dz \right) dx \, dy$$

13.5

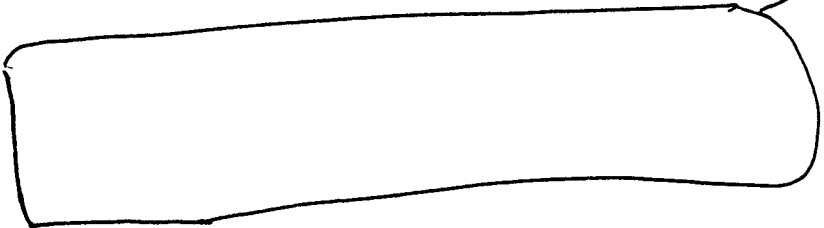
Ex: Find the volume of the tetrahedron cut from the first octant by the plane:

$$6x + 3y + 2z = 6$$

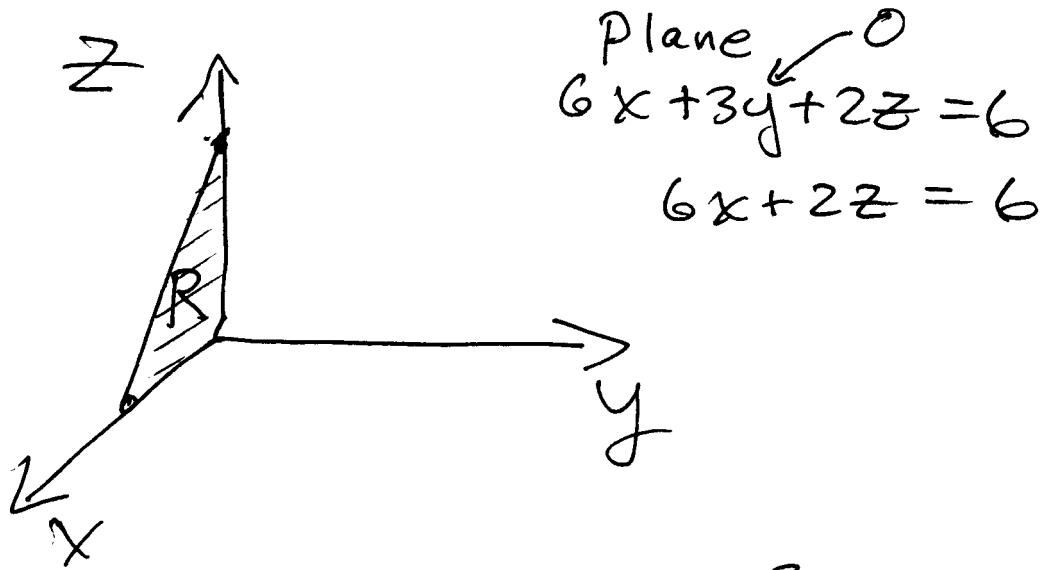


Now, try  $\iint_R \left( \int_0^{\dots} 1 \, dy \right) dA$

$y =$



ex:



$$\iint_R \left( \int_0^{2-2x-\frac{2}{3}z} 1 \, dy \right) dA$$

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How many ways are there  
to compute  $\iiint_D 1 \, dV$ ?