

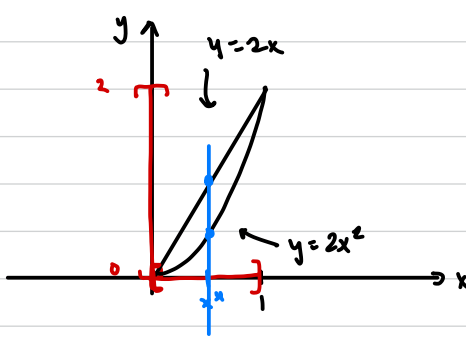
Changing the Order of Integration

Ex. Change the order of integration of

$$\int_0^2 \int_{\frac{y}{2}}^{\sqrt{\frac{y}{2}}} f(x,y) dx dy.$$

DRAW D.

endpoints $\rightarrow$ curves $\rightarrow$



outer curve: $x = \sqrt{\frac{y}{2}}$

$$x^2 = \frac{y}{2} \rightsquigarrow y = 2x^2$$

inner curve: $x = \frac{y}{2}$

$$y = 2x$$

$$\int_0^1 \int_{2x^2}^{2x} f(x,y) dy dx$$

upper curve bdy.
lower curve bdy.