14. $\int_{x=0}^{x=6} \int_{y=\frac{x}{3}}^{y=2} dy\,dx$

$= \int_{x=0}^{x=6} [y]_{y=\frac{x}{3}}^{y=2} dx$

$= \int_{x=0}^{x=6} \left(2 - \frac{x}{3}\right) dx$

$= \left[2x - \frac{1}{3}\cdot\frac{1}{2}x^2\right]_{x=0}^{x=6}$

$= \left[2x - \frac{1}{6}x^2\right]_{x=0}^{x=6}$

$= 2(6) - \frac{1}{6}(6)^2 - \left(2(0) - \frac{1}{6}(0)^2\right)$

$= 12 - 6$

$= \boxed{6}$

$\int_{y=0}^{y=2} \int_{x=0}^{x=3y} dx\,dy$

$= \int_{y=0}^{y=2} [x]_{x=0}^{x=3y} dy$

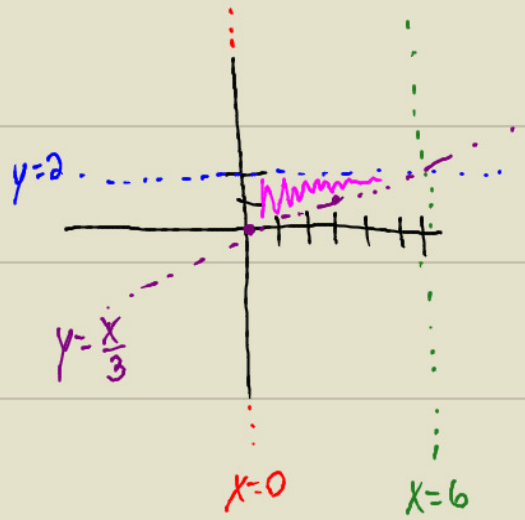
$= \int_{y=0}^{y=2} (3y - 0)\, dy$

$= \int_{y=0}^{y=2} (3y)\, dy$

$= \left[\frac{3}{2}y^2\right]_{y=0}^{y=2}$

$= \frac{3}{2}(2)^2 - \frac{3}{2}(0)^2$

$= \boxed{6}$



$y = \frac{x}{3}$

$3y = x$