

Quiz 17

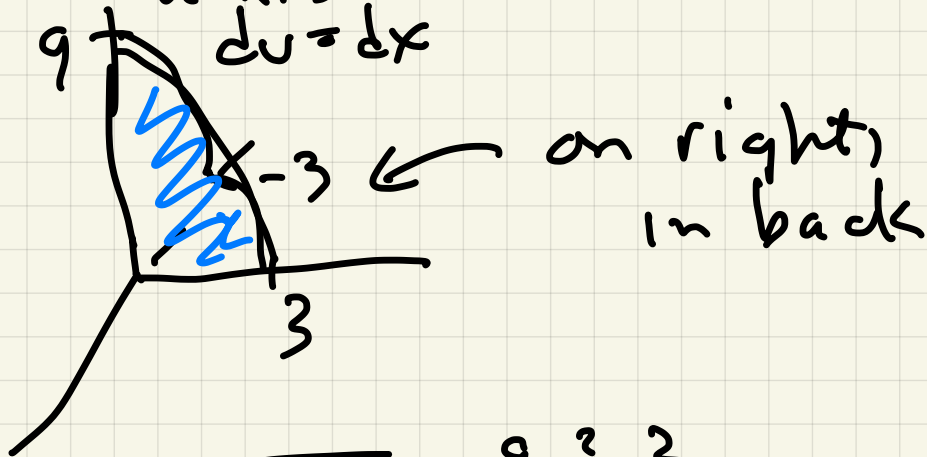
1. $\int_0^y 2 dz = 2z \Big|_0^y = 2y$

$\int_0^{x+3} 2y = y^2 \Big|_0^{x+3} = (x+3)^2$

$\int_{-3}^3 (x+3)^2 dx = \int_0^6 u^2 du = \frac{1}{3} u^3 \Big|_0^6 = \frac{216}{3} = 72$

$u = x+3$
 $du = dx$

2. (a)



(b)

$$\int_{-3}^0 \int_0^{\sqrt{9-x^2}} \int_0^{9-x^2-y^2} 5 dz dy dx$$

OR

$$\int_0^3 \int_0^{\sqrt{9-x^2}} \int_0^{9-x^2-y^2} 5 dz dx dy$$

OR

$$\int_0^9 \int_0^{\sqrt{9-z}} \int_0^{\sqrt{9-z-x^2}} 5 dy dx dz$$

(3 others)