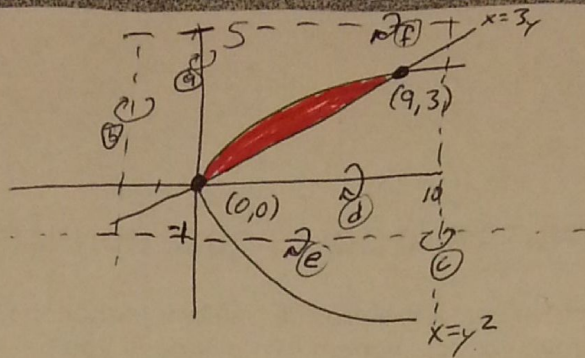


#5

R:



(a) shells: $\int_0^9 2\pi x (\sqrt{x} - \frac{1}{3}x) dx$

(b) shells: $\int_0^9 2\pi(x+2) (\sqrt{x} - \frac{1}{3}x) dx$

washers: $\int_0^3 \pi(3y)^2 - \pi(y^2)^2 dy$

washers: $\int_0^3 \pi(3y+2)^2 - \pi(y^2+2)^2 dy$

(c) shells: $\int_0^9 2\pi(10-x) (\sqrt{x} - \frac{1}{3}x) dx$

(d) shells: $\int_0^3 2\pi y(3y - y^2) dy$

washers: $\int_0^3 \pi(10-y^2)^2 - \pi(10-3y)^2 dy$

washers: $\int_0^9 \pi(\sqrt{x})^2 - \pi(\frac{1}{3}x)^2 dx$

(e) shells: $\int_0^3 2\pi(y+1)(3y - y^2) dy$

(f) shells: $\int_0^3 2\pi(5-y)(3y - y^2) dy$

washers: $\int_0^9 \pi(\sqrt{x}+1)^2 - \pi(\frac{1}{3}x+1)^2 dx$

washers: $\int_0^9 \pi(5-\frac{1}{3}x)^2 - \pi(5-\sqrt{x})^2 dx$