Diandra Bagustri

No
Date

n	0	1	2	3	4	5
y(n)	7	10	11	11,5	12	12

$2\pi \int_0^5 y\,dx$ => $y_0 - y_4$ = Simson + $y_4 - y_5$ = trapesium

Simson $= 2\pi \frac{h}{3}[y_0 + y_4 + 4(y_1 + y_3) + 2y_2]$
$= 2\pi \frac{1}{3}[7 + 12 + 4(10 + 11{,}5) + 2(11)]$
$= 254/3\ \pi$

Trapesium $= 2\pi \frac{h}{2}[y_4 + y_5]$
$= 2\pi \frac{1}{2}[12 + 12]$
$= 24\pi$

Total $= (254/3 + 24)\pi = 108{,}6667\pi$

Lp benda putar = $108{,}6667\pi$

$\pi \int_0^5 y^2\,dx$ => $y_0^2 - y_4^2$ = simson + $y_4^2 - y_5^2$ = trapesium

Simson $= \pi \frac{h}{3}[y_0^2 + y_4^2 + 4(y_1^2 + y_3^2) + 2y_2^2]$
$= \pi\ 1/3[7^2 + 12^2 + 4(10^2 + 11{,}5^2) + 2(11^2)]$
$= 1368/3\ \pi$

Trapesium $= \pi \frac{h}{2}[y_4^2 + y_5^2]$
$= \pi \frac{1}{2}[12^2 + 12^2]$
$= 144\pi$

Total $= (1368/3 + 144)\pi = 598{,}667\pi$

Volum benda putar = $598{,}667\pi$