

BECA / HUSON / R.1 math

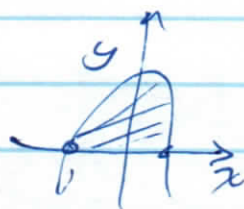
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Do Now Quiz

Solutions

1. (a)  $f(x) = 6 - x^2 = 0$   
 $x = \pm \sqrt{6} \quad (\approx \pm 2.45)$

(b)  $A = \int_{-\sqrt{6}}^{\sqrt{6}} (6 - x^2) dx =$   
 $= 19.5959... \approx 19.6$



2. (a)  $J = \pi$ ,  $k = 2\pi$  ( $\approx 6.28$ )

(b)  $V = \int_{\pi}^{2\pi} \pi (x-1) \sin x)^2 dx$

(c)  $= 69.60192... \approx 69.6$

3. (a) 3

(b) period  $= \frac{2\pi}{\pi} = 2$

(c) on graph

4. (a)  $f\left(\frac{\pi}{4}\right) = \sin\left(\frac{\pi}{4} + \frac{\pi}{4}\right) + k = 6$   
 $1 + k = 6$   
 $k = 5$

(b) min of  $\sin(x) = -1$   
min of  $f(x) = -1 + 5 = 4$

(c)  $\left(-\frac{\pi}{4}, 5\right)$