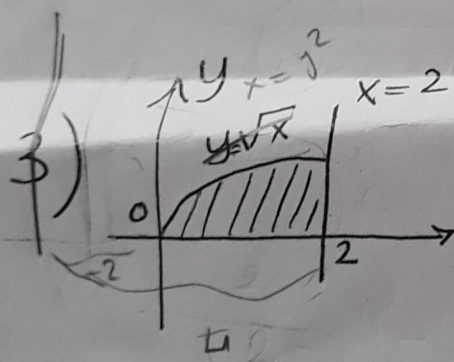


* Solve just four questions1) f is a continuous function.If $(x \cdot \sin(\pi x))' = \left(\int_0^{x^2} f(t) dt \right)'$ then $f(x^2) \cdot 2x = f(0)$.
evaluate $f(4)$. $f(1^2) \cdot 1x = f(0)$
 $x=2$

$$\sin \pi x + x \cdot \pi \cdot \cos \pi x = 2x \cdot f(x^2) = 0$$

$$2) \text{ Evaluate } \int_9^{16} \frac{\sqrt{x}}{x-4} dx$$



The shaded area is rotated about the line $x = -2$.
Find the volume of generated solid.

4) Does $\int_1^{\infty} \frac{\cos^2 x}{1+x^2} dx$ converge? Give detailed solution.

$$-\frac{4\sqrt{2}}{5} - \frac{8\sqrt{2}}{3} + 11\sqrt{2}$$

$$\frac{y^5}{5} - \frac{4}{3}y^3 + 12y$$

5) $\left. \begin{array}{l} x = e^t + e^{-t} \\ y = 5 - 2t \\ 0 \leq t \leq 3 \end{array} \right\}$ Find the length of given curve.

GOOD LUCK...

50min.

Emre GÜVEN