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$$\int_{\frac{1}{3}}^{3} \frac{\sqrt{x}}{x^2+x}\,dx =$$

$$U = \sqrt{x}$$

$$U^2 = x$$

$$\int_{\frac{1}{3}}^{3} \frac{v}{(v^2)^2+v^2} \cdot 2v\,dv$$

$$2v\,dv = x\,dx$$

$$2v\,dv = dx$$

$$2\int_{\frac{1}{3}}^{3} \frac{v}{v^4+v^2} \cdot v\,dv =$$

$$y = arctg\,x$$

$$y' = \frac{1}{x^2+1}$$

$$2 \cdot \int_{\frac{1}{3}}^{3} \frac{v^2\,dv}{v^2(v^2+1)} = \boxed{2 \cdot \int_{\frac{1}{3}}^{3} \frac{1}{v^2+1} \cdot dv}$$

$$2 \cdot arctg\,v\Big]_{\frac{1}{3}}^{3} = 2 \cdot arctg\,\sqrt{x}\Big]_{\frac{1}{3}}^{3}$$

$$\underbrace{(2 \cdot arctg\,\sqrt{3})}_{\simeq 2.094} - \underbrace{\left(2 \cdot arctg\,\sqrt{\frac{1}{3}}\right)}_{\simeq 1.097}$$

$$\boxed{1.047}$$