

$$\int_{\pi/4}^{3\pi/4} ((7\sqrt{2})^2 - (7\csc x)^2) dx$$

10)  $y = 7\csc x$ ,  $y = 7\sqrt{2}$ ,  $\frac{\pi}{4} \leq x \leq \frac{3\pi}{4}$

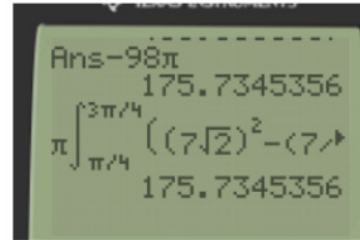
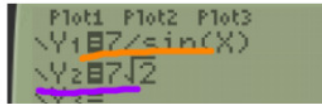
A)  $49\pi^2 - 98\pi$

B)  $49\pi^2 + 98\pi$

C)  $7\pi^2 - 49\pi$

D)  $\pi^2 + 14\pi$

10) \_\_\_\_\_



11)  $y = \frac{5}{x}, y = -x + 6$

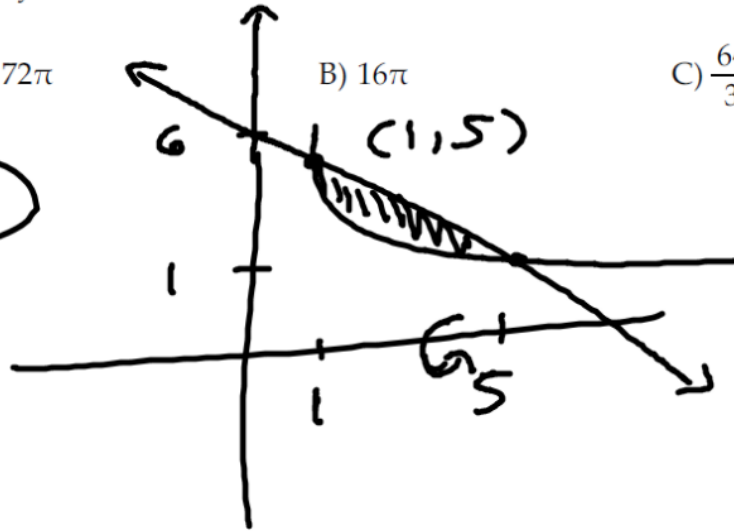
A)  $72\pi$

B)  $16\pi$

C)  $\frac{64}{3}\pi$

D)  $20\pi$

11



$$\pi \int_1^5 \left( (-x+6)^2 - \left(\frac{5}{x}\right)^2 \right) dx$$

... then integrate 😊

11) C

$$L = \int_a^b \sqrt{1 + \left(\frac{dy}{dx}\right)^2} dx$$

$$\frac{dy}{dx} = 7x^4 - 1$$

) 20

15)  $y = \int_1^x \sqrt{7t^4 - 1} dt, -2 \leq x \leq 3$

A)  $35\sqrt{7}$

B)  $\frac{35\sqrt{7}}{3}$

C) 385

D) 49

$$L = \int_{-2}^3 \sqrt{1 + (7x^4 - 1)^2} dx$$

Calculator screenshot showing the numerical value of the integral:

$$\frac{35\sqrt{7}}{3} \approx 30.86709863$$

$$\int_{-2}^3 (\sqrt{1 + (7x^4 - 1)^2}) dx \approx 30.86709863$$