Assignment 12: Due Thurs Nov 2nd

Find the value of x for which the following integral is minimized.

$$\int_{x}^{x^2} 18t + 9\,dt$$

$9t^2+9t\Big|_x^{x^2}$

$\left[9(x^2)^2+9(x^2)\right]-\left[9(x)^2+9(x)\right]$

$\left[9x^4+9x^2\right]-\left[9x^2+9x\right]$

$9x^4-9x$

$\frac{d}{dx}\left(9x^4-9x\right)=36x^3-9=0$

$36x^3=+9$

$x^3=\frac{+9}{36}$

$x=\sqrt[3]{9/36}=$

$=\sqrt[3]{1/4}$