Classwork

Suppose that the random variable X measures the thickness of the paint in millimeters at a randomly chosen point on a randomly chosen car panel, and that X takes values between 0.125 and 0.5 mm with a probability density function of

$$f(x) = \frac{512}{93}(0.5 - (x - 0.25)^2)$$

$$\text{for } 0.125 \leq x \leq 0.5$$

What is the expected or average paint thickness?