1) (35 pts) Evaluate the following integral

$$\int \frac{dx}{(2x+1)\sqrt{x^2 - 5x + 7}} = ?$$

2) (35 pts) Use Riemann sums to solve the following integral

$$\int_{-3}^{-1} \left(1 - x^3\right) dx = ? \quad \text{(Divide } [-3,-1] \text{ to } n \text{ equal length)}$$

3) (30 pts) Find $\lim\limits_{x \to \infty}\left(\left(\int_{0}^{1/x} \sin\left(t^2\right) dt\right).x\right) = ?$

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I wish you success.