Family name: Sr. #

Write your final answers in the boxes, and **DON'T** forget to attach your steps in separate papers.

Q1) Evaluate the following integrals

i. $\int \sqrt{8x - x^2}\, dx =$

ii. $\int \dfrac{\sqrt{x^2 - 4x}}{x - 2}\, dx =$

iii. $\int \dfrac{x^4 + 2x^2 + 3x + 3}{x^3 + 1}\, dx =$

iv. $\int \dfrac{dx}{x^2 + 2x + 10} =$

v. $\int \dfrac{dx}{3 - 5\sin x} =$

Q2) Write the partial fraction **WITHOUT** evaluating the numerical value of the coefficients for

$$\frac{3x^3 + 5x}{x^3(x^2 - 1)^2(x^2 + 3x + 4)^2(2x^2 + 3x + 1)}$$