Math102 Term172
Sec…… Quiz 1

Name	ID	Sr

Q1)(5points) Estimate the area under the graph of $f(x) = \frac{1}{2}|x^2 - 3|$ from $x = 0$ to $x = 8$ by using four approximating rectangles and midpoints.

Q2)(5points) Evaluate the following limit

$$\lim_{n\to\infty} \sum_{i=1}^{n} \left(\frac{i^{3/2}}{n^{5/2}} + \frac{1}{n}\sqrt{\frac{n^2 - i^2}{n^2}} \right)$$

Q3) (5points) Evaluate the integral $\int_1^3 (2 + x - x^2) dx$ using the definition of the integral given in theorem 4 (Limit of a Riemann Sum using right endpoints)
(Other methods will not be accepted)

Q4) If f is a continuous function such that

$$\int_1^{x^2} f(t)dt = xe^{2x} + \int_0^{2x} e^t f(t)dt$$

for all x. Find $f(4)$