NAME:_____ ID:_____ Section: _____

Exercise 1 (3 points)

The area under the curve of the function $f(x) = x^2 - 1$ on the interval [0, 1] is **the limit** of the following Riemann sum :

a/ $\dfrac{1 + 3n - 4n^2}{6n^2}$	
b/ $\dfrac{1 + 3n + 4n^2}{6n^2}$	
c/ $\dfrac{1 - 3n + 4n^2}{6n^2}$	
d/ $\dfrac{1 + 3n - 4n^2}{6n}$	
e/ $\dfrac{1 + 3n - 4n^2}{6n^3}$	

Exercise 2 (3 points)

If $g(x) = \displaystyle\int_{x^2}^{x^4} \sqrt{t}\,dt$, then $g''(1)$ is:

a/ 16	
b/ -16	
c/ 1	
d/ -1	
e/ 3	

Exercise 3 (4 points) Evaluate the indefinite integral $\displaystyle\int \frac{x e^{x^2}\,dx}{e^{x^2} + 1}$.

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Exercise 1 (3 points)

The area under the curve of the function $f(x) = x^2 + 1$ on the interval [0, 1] is **the limit** of the following Riemann sum :

a/ $\dfrac{1 + 3n - 8n^2}{6n^2}$	
b/ $\dfrac{1 + 3n + 8n^2}{6n^2}$	
c/ $\dfrac{1 - 3n - 8n^2}{6n^2}$	
d/ $\dfrac{1 + 3n + 8n^2}{6n}$	
e/ $\dfrac{1 + 3n + 8n^2}{6n^3}$	

Exercise 2 (3 points)

If $g(x) = \displaystyle\int_{x}^{\sqrt{x}} t^2 dt$, then $g''(1)$ is:

a/ $\dfrac{1}{4}$	
b/ $\dfrac{-7}{4}$	
c/ $\dfrac{1}{2}$	
d/ $\dfrac{-1}{4}$	
e/ $\dfrac{-3}{4}$	

Exercise 3 (4 points) Evaluate the indefinite integral $\displaystyle\int \frac{Ln(x)dx}{x(Ln(x)+1)}$.