

**MAT1001 Quiz 11 - Version 1**  
**Time: 20 Minutes**

Student Name: \_\_\_\_\_ Student ID: \_\_\_\_\_

1. [6+6+6+2=20 Points] Evaluate the following integrals or limits.

(a)  $\int x^3 e^x dx.$

(b)  $\int \sec^3 x \tan^3 x dx.$

(c)  $\int_1^e \frac{dy}{y\sqrt{1+(\ln y)^2}}.$

(d)  $\lim_{x \rightarrow 0} \frac{(1 - \cos(3x)) \sin(9x)}{\ln(1 + 2x)}.$