

Please show **all** your work! Answers without supporting work will not be given credit.

**Clearly mention what theorem(s), if any, you are using.**

Write answers in spaces provided.

You have 12 minutes to complete this Quiz.

You can get MAXIMUM  $(6 + 6) = 12$  marks.

Name:

Calculate the following double integrals.

1.  $\iint_{\Omega} x \sin(x + y) dA$  where  $\Omega = [0, \pi/6] \times [0, \pi/3]$
2.  $\iint_{\Omega} e^{-y^2} dA$  where  $\Omega = \{(x, y) \mid 0 \leq y \leq 3, 0 \leq x \leq y\}$