

- Please demonstrate that you can perform integration by parts or use trigonometric identities properly by finding the following integrals. Use algebraic simplification and substitution as needed.
- Please show your work/support your reasoning.
- If you require a trigonometric identity which you did not write down on your card, you may request to use the reference pages in the instructor's textbook.

1) $\int \cos^2 x \, dx$

2) $\int x \cos 2x \, dx$

3) $\int \ln \sqrt{x} \, dx$

4) $\int e^x \cos x \, dx$