

## MATH 253 WORKSHEET WEEK 4

This does **not** count for marks.

1. Find  $\int \frac{1}{(x^2 + 4x + 5)^{3/2}} dx$ .

2. Find  $\int \frac{1}{(4x - x^2)^{3/2}} dx$ .

3. Find  $\int \frac{x - 3}{x + 2} dx$ .

4. Find  $\int_0^\pi x \sin(x) dx$ .

5. Find  $\int x^2 e^{3x} dx$ .

6. Find  $\int xa^{-x} dx$  ( $a$  a positive constant).

7. Find  $\int \frac{dx}{x^4 \sqrt{x^2 + 1}}$ .

8. Find  $\int \frac{x}{4 - x^2 + \sqrt{4 - x^2}} dx$ .