

MA1311 (Advanced Calculus) Tutorial/Exercise sheet 10

[due 17.50am, Tuesday, December 14, 2010]

1. Find $\int (x^2 - 3x)e^{4x} dx$
2. Find $\int \frac{x^2 - 3x}{2x^3 - 9x^2 + 21} dx$
3. Find $\int \cos^4(3x) dx$
4. Find $\int_0^{\pi/4} \sec^2 x dx$
5. Find $\int \tan^2 x dx$
6. Find $\int \cos^2 x \sin^3 x dx$
7. Find $\int \frac{x^2}{x+1} dx$
8. Find $\int_0^{\pi/6} e^{3x} \cos(2x) dx$
9. Find $\int \frac{1}{x^2 + x + 1} dx$
10. Find $\int \frac{x^2}{(x+2)(x^2-1)} dx$
11. Find $\int \frac{x^2}{(x+1)(x^2-1)} dx$
12. Find $\int \frac{x^2}{(x+1)(x^2+1)} dx$