

MAT 137 (Calculus II) Prof. Swift
In-class worksheet: Integration Techniques

Evaluate the indefinite integrals

1. $\int \frac{x^2 + 3x + 2}{x} dx$

2. $\int e^x + 2 \sin(x) + 3 \cos(x) + \frac{1}{1+x^2} + \frac{2}{\sqrt{1-x^2}} dx$

3. $\int x e^x dx$

4. $\int \frac{x}{x^2 - x - 2} dx$

5. $\int \frac{2x - 1}{x^2 - x - 2} dx$

Use trig substitution to rewrite the following integral as an integral in θ , without any square roots, but do not evaluate the integral.

6. $\int \frac{\sqrt{1-x^2}}{x} dx$