

## 1 Integration

1. (a) Find :  $\int \cos^3 x e^{\log \sin x} dx$   
(b) Find:  $\int \frac{1}{5+4x-x^2} dx$
2. (a) Evaluate:  $\int_0^\pi \frac{e^{\cos x}}{e^{\cos x} + e^{-\cos x}} dx$   
(b) Find:  $\int \frac{2x+1}{(x+1)^2(x-1)} dx$
3. Find the area of the region bounded by the curve  $4x^2 + y^2 = 36$  using integration