

1. Choose one of the following.

(10 pts)

(a)  $\int \cos^3 5x \sin^2 5x \, dx$

(b)  $\int \sin 3\theta \cos 2\theta \, d\theta$

2. Choose two of the following.

(10 pts)

(a)  $\int x \ln x \, dx$

(b)  $\int e^{2x} \cos x \, dx$

(c)  $\int x^2 \cos 2x \, dx$

3. Choose one of the following.

(10 pts)

(a)  $\int \frac{dx}{x^2\sqrt{x^2-16}}$

(b)  $\int \frac{dx}{\sqrt{2x-x^2}}$

4. Evaluate the indefinite integral.

(10 pts)

$$\int \frac{5x+8}{x(x+2)^2} dx$$