

Solve three problems only

1. (5- Points) Evaluate  $\int x \tan^{-1} \frac{x}{2} dx$

2. Evaluate  $\int \frac{dx}{x^2 \sqrt{4x^2 - 9}}$

3. (5-Points) Evaluate  $\int \frac{\tan^3 x}{\sqrt{\sec x}} dx$

4. (5- Points) Evaluate  $\int (2x+3)^2 e^{2x} dx$

**Solve three problems only**

1. (5- Points) Evaluate  $\int x \tan^{-1} \frac{x}{3} dx$

2. Evaluate  $\int \frac{dx}{x^2 \sqrt{9x^2 - 4}}$

3. (5-Points) Evaluate  $\int \frac{\tan^3 x}{\sqrt[3]{\sec x}} dx$

4. (5- Points) Evaluate  $\int (3x+2)^3 e^{3x} dx$ .