

Math 250a (Kennedy) - Quiz 1 - Fall '01

1. Find the derivative of

$$g(x) = x^2 e^{\cos(x)}$$

$$2x e^{\cos x} - x^2 \sin x e^{\cos x}$$

2. Find the derivative of

$$f(\theta) = \frac{\sin(\pi - \theta)}{\theta}$$

$$\frac{-\cos(\pi - \theta) \theta - \sin(\pi - \theta)}{\theta^2}$$

3. Find the derivative of

$$h(t) = \sin(\sqrt{e^t + 1})$$

$$\frac{1}{2} (e^t + 1)^{-1/2} e^t \cos(\sqrt{e^t + 1})$$

4. Find

$$\int 3 \sin(2\theta) d\theta$$

$$-\frac{3}{2} \cos(2\theta) + C$$

5. Find

$$\int (\pi + x + \frac{1}{\sqrt{x}}) dx$$

$$\pi x + \frac{1}{2} x^2 + 2x^{1/2} + C$$