

MAC 2312  
Quiz 4  
September 24, 2008

1) Evaluate the following integrals:

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

$$\int \frac{1}{x^2 + 4x + 5} dx$$

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

$$\int \frac{x}{x^2 + 4x + 5} dx$$

2) Someone left a hunk of Promethium-145 sitting on a shelf in a lab for 10 years. When someone finally discovers it, there is 10 grams of Pm-145 left. How much Pm-145 was there to begin with? (The half-life of Pm-145 is 17.7 years.)