

1. (1 pt) For each of the indefinite integrals below, choose which of the following substitutions would be most helpful in evaluating the integral. Enter the appropriate letter (A,B, or C) in each blank. DO NOT EVALUATE THE INTEGRALS.

A. $x = 4 \tan(t)$

B. $x = 4 \sin(t)$

C. $x = 4 \sec(t)$

—1. $\int \frac{dx}{(16-x^2)^{3/2}}$

—2. $\int \frac{dx}{(16+x^2)^3}$

—3. $\int \sqrt{x^2-16} dx$

—4. $\int x^2 \sqrt{16+x^2} dx$

—5. $\int (x^2-16)^{5/2} dx$

2. (1 pt) Evaluate the definite integral.

$$\int_0^9 \frac{1}{\sqrt{81+x^2}} dx$$

3. (1 pt) Evaluate the indefinite integral.

$$\int \frac{1}{x^2 \sqrt{36-x^2}} dx$$

4. (1 pt) Evaluate the indefinite integral.

$$\int \frac{\sqrt{16x^2-144}}{x} dx$$

+C

5. (1 pt) Evaluate the indefinite integral.

$$\int \sqrt{16x-x^2} dx$$

6. (1 pt) Evaluate the indefinite integral

$$\int \frac{1}{x^2+10x+125} dx = \text{_____} + C$$