



## Extrema on an Interval

In Exercises 1-4, state the trigonometric substitution you would use to find the integral. Do not integrate.

1.  $\int (9 + x^2)^{-2} dx$

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

Find the indefinite integral using the substitution  $x = 4 \sin \theta$

5.  $\int \frac{1}{(16 - x^2)^{3/2}} dx$

Find the indefinite integral using the substitution  $x = 5 \sec \theta$

11.  $\int x^3 \sqrt{x^2 - 25} dx$

Integrate using trigonometric substitution.

$$21. \int \frac{x}{\sqrt{x^2 + 36}} dx$$

$$31. \int \frac{1}{x\sqrt{4x^2 + 9}} dx$$