Suppose you want to estimate \( \int_{-1}^{3} x^2 \, dx \) using the LEFT(4) approximation.

1. (10) Sketch \( f(x) = x^2 \) on the interval \([-1, 3]\) and the area corresponding to LEFT(4).

2. (10) Compute LEFT(4) for the integral.

3. (10) Consider the integral \( \int x^2 \sqrt{25 - x^2} \, dx \).

Choose a trigonometric substitution to solve this, then make the substitution.

You should simplify your answer, but you do not need to finish computing the integral!