

Integration Using Trig Substitutions

Name _____

Evaluate the integral.

1. $\int \frac{x^2}{\sqrt{9-x^2}} dx$

2. $\int \frac{dx}{\sqrt{x^2-9}}$

3. $\int \sqrt{12+4x^2} dx$

4. $\int \frac{dt}{\sqrt{t^2-5}}$

5. $\int \frac{dy}{y^2\sqrt{5-y^2}}$

6. $\int \frac{dt}{t\sqrt{t^2-4}}$

7. $\int \frac{dx}{\sqrt{25+x^2}}$

8. $\int \frac{x^2 dx}{(x^2-4)^{3/2}}$

9. $\int x^3 \sqrt{9-x^2} dx$

10. $\int \frac{x^2 dx}{\sqrt{(x^2+1)}}$

11. $\int \frac{x^2 dx}{\sqrt{(x^2+1)^3}}$

12. $\int \frac{dx}{(x^2-4)^2}$