Trig Substitutions

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

2. $\displaystyle \int \sqrt{9+4x^2}\,dx$

3. $\displaystyle \int \frac{dt}{(4-t^2)^{3/2}}$

4. $\displaystyle \int \frac{dy}{y^2\sqrt{y^2-9}}$

5. $\displaystyle \int \frac{dx}{x^2\sqrt{1+x^2}}$

6. $\displaystyle \int \frac{dx}{9+x^2}$

7. $\displaystyle \int \frac{x^2\,dx}{\sqrt{x^2+1}}$

8. $\displaystyle \int \frac{dx}{25-x^2}$

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

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

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

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

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

14. $\displaystyle \int \frac{dx}{(x^2+4)^3}$

15. $\displaystyle \int \frac{dx}{\sqrt{x^2+4x+13}}$

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