

Evaluate the integrals

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

2.
$$\int \frac{x^3}{\sqrt{4-x^2}} dx$$

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

4.
$$\int_0^3 \frac{dx}{\sqrt{9-x^2}}$$

5.
$$\int \frac{dx}{\sqrt{4-x^2}}$$

6.
$$\int \frac{dx}{\sqrt{9x^2-25}}, \quad x > \frac{5}{3}$$

7.
$$\int_0^{\sqrt{3}/2} \frac{x^2}{(1-x^2)^{3/2}} dx$$

8.
$$\int \frac{dx}{x^2 \sqrt{9-x^2}}$$

9.
$$\int_0^{\sqrt{3}/2} \frac{4}{9+4x^2} dx$$

10.
$$\int \frac{(1-x^2)^{5/2}}{x^8} dx$$

11.
$$\int_{1/12}^{1/4} \frac{dx}{\sqrt{x}(1+4x)}$$

12.
$$\int \frac{e^{2x}}{(1+e^{4x})^{3/2}} dx$$