

INVERSE TRIG FUNCTIONS III
AP CALCULUS

Answers

NAME _____

Find the integral.

1. $\int \frac{5}{\sqrt{9-x^2}} dx$

$$5 \arcsin\left(\frac{x}{3}\right) + C$$

2. $\int \frac{7}{16+x^2} dx$

$$\frac{7}{4} \arctan\left(\frac{x}{4}\right) + C$$

3. $\int \frac{1}{x\sqrt{4x^2-1}} dx$

$$\operatorname{arcsec} |2x| + C$$

4. $\int \frac{x^3}{x^2+1} dx$

$$\frac{1}{2}x^2 - \frac{1}{2}\ln(x^2+1) + C$$

$$5. \int \frac{1}{\sqrt{1-(x+1)^2}} dx$$

$$\arcsin(x+1) + C$$

$$6. \int \frac{t}{\sqrt{1-t^4}} dt$$

$$\frac{1}{2} \arcsin(t^2) + C$$

$$7. \int \frac{e^{2x}}{4+e^{4x}} dx$$

$$\frac{1}{2} \arctan\left(\frac{e^{2x}}{2}\right) + C$$

$$8. \int \frac{1}{\sqrt{x}\sqrt{1-x}} dx$$

$$2 \arcsin(\sqrt{x}) + C$$