

$$\arcsin\left(\frac{\sqrt{3}}{2}\right) =$$

(a) $\frac{\pi}{6}$

(d) $\frac{7\pi}{3}$

(b) $\frac{\pi}{4}$

(e) 42

(c) $\frac{\pi}{3}$

$$\arcsin\left(-\frac{1}{2}\right) =$$

(a) $\frac{5\pi}{6}$

(d) $-\frac{\pi}{3}$

(b) $\frac{\pi}{3}$

(e) $-\frac{\pi}{6}$

(c) $\frac{7\pi}{6}$

Evaluate the following

1. $\frac{d}{dx} \arcsin(\ln(x))$

2. $\frac{d}{dx} \arctan(\sec(x^3))$

3. $\int \frac{x+3}{\sqrt{1-(x^2+6x)^2}} dx$

4. $\int \frac{\sin(4x)}{1+\cos(4x)^2} dx$

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

6. $\int_0^1 \frac{e^x}{1+e^x} dx$

7. $\int e^x \sqrt{1+e^x} dx$

8. $\int x e^x dx$