

For inverse functions...

$$f^{-1}(f(x)) = x \text{ for } x \text{ in the domain of } f(x) \text{ and } f(f^{-1}(x)) = x \text{ for } x \text{ in the domain of } f^{-1}(x)$$

For sine and inverse sine function...

$$\sin^{-1}(\sin x) = x \quad \text{given } x \text{ is in the domain of } \sin x \quad \text{Domain: } -\frac{\pi}{2} \leq x \leq \frac{\pi}{2}$$

$$\sin(\sin^{-1} x) = x \quad \text{given } x \text{ is in the domain of } \sin^{-1} x \quad \text{Domain: } -1 \leq x \leq 1$$

$$\sin^{-1}(\sin x) = x \quad \text{Domain: } -\frac{\pi}{2} \leq x \leq \frac{\pi}{2}$$

$$\sin(\sin^{-1} x) = x \quad \text{Domain: } -1 \leq x \leq 1$$

Evaluate the following:

$$\sin^{-1}\left(\sin \frac{\pi}{6}\right)$$

$$\sin^{-1}\left(\sin -\frac{\pi}{3}\right)$$

$$\sin^{-1}\left(\sin -\frac{\pi}{2}\right)$$

$$\sin^{-1}(\sin x) = x \quad \text{Domain: } -\frac{\pi}{2} \leq x \leq \frac{\pi}{2}$$

$$\sin(\sin^{-1} x) = x \quad \text{Domain: } -1 \leq x \leq 1$$

Evaluate the following:

$$\sin^{-1}\left(\sin \frac{2\pi}{3}\right)$$

$$\sin^{-1}(\sin x) = x \quad \text{Domain: } -\frac{\pi}{2} \leq x \leq \frac{\pi}{2}$$

$$\sin(\sin^{-1} x) = x \quad \text{Domain: } -1 \leq x \leq 1$$

Evaluate the following:

$$\sin^{-1}\left(\sin -\frac{11\pi}{6}\right)$$

$$\sin^{-1}(\sin x) = x \quad \text{Domain: } -\frac{\pi}{2} \leq x \leq \frac{\pi}{2}$$

$$\sin(\sin^{-1} x) = x \quad \text{Domain: } -1 \leq x \leq 1$$

Evaluate the following:

$$\sin(\sin^{-1} \frac{1}{2})$$

$$\sin(\sin^{-1} \frac{\sqrt{3}}{2})$$

$$\sin(\sin^{-1} -\frac{\sqrt{2}}{2})$$

$$\sin^{-1}(\sin x) = x \quad \text{Domain: } -\frac{\pi}{2} \leq x \leq \frac{\pi}{2}$$

$$\sin(\sin^{-1} x) = x \quad \text{Domain: } -1 \leq x \leq 1$$

Evaluate the following:

$$\sin(\sin^{-1} 1.5)$$

$$\sin(\sin^{-1} -5)$$

For sine and inverse sine function...

$$\sin^{-1}(\sin x) = x \quad \text{given } x \text{ is in the domain of } \sin x \quad \text{Domain: } -\frac{\pi}{2} \leq x \leq \frac{\pi}{2}$$

$$\sin(\sin^{-1} x) = x \quad \text{given } x \text{ is in the domain of } \sin^{-1} x \quad \text{Domain: } -1 \leq x \leq 1$$