Trigonométrie inverse

• Arccos

$$\begin{cases} y = \cos\theta \\ \theta \in [0, \pi] \end{cases} \Leftrightarrow \begin{cases} \theta = \arccos y \\ y \in [-1, 1] \end{cases}$$

$$\begin{cases} y = \cos\theta \\ \theta \in [\pi, 2\pi] \end{cases} \Leftrightarrow \begin{cases} y = -\cos(\theta - \pi) \\ 0 < \theta - \pi < \pi \end{cases}$$

$$\Leftrightarrow \begin{cases} \theta - \pi = \arccos(-y) \\ y \in [-1, 1] \end{cases}$$

$$\begin{cases} y \in \cos\theta \\ \theta \in [\pi, 2\pi] \end{cases} \Leftrightarrow \begin{cases} \theta = \pi + \arccos y \\ y \in [-1, 1] \end{cases}$$

• Arc sin

$$\begin{cases} y = \sin\theta \\ \theta \in \left[-\frac{\pi}{2}, \frac{\pi}{2}\right] \end{cases} \Leftrightarrow \begin{cases} \theta = \arcsin y \\ y \in [-1, 1] \end{cases}$$

$$\begin{cases} y = \sin\theta \\ \theta \in \left[\frac{\pi}{2}, \frac{3\pi}{2}\right] \end{cases} \Leftrightarrow \begin{cases} y = \sin\theta \\ \frac{\pi}{2} < \theta < \frac{3\pi}{2} \end{cases}$$

$$\Leftrightarrow \begin{cases} y = \sin\theta \\ -\frac{\pi}{2} < \theta - \pi < \frac{\pi}{2} \end{cases}$$

$$\Leftrightarrow \begin{cases} y = -\sin(\theta - \pi) \\ -\frac{\pi}{2} < \theta - \pi < \frac{\pi}{2} \end{cases}$$

$$\Leftrightarrow \begin{cases} \theta - \pi = \arcsin(-y) \\ y \in [-1, 1] \end{cases}$$

$$\Leftrightarrow \begin{cases} \theta = \pi + \arcsin(-y) \\ y \in [-1, 1] \end{cases}$$

$$\begin{cases} y = \sin\theta \\ \theta \in \left[\frac{\pi}{2}, \frac{3\pi}{2}\right] \end{cases} \Leftrightarrow \begin{cases} \theta = \pi - \arcsin y \\ y \in [-1, 1] \end{cases}$$