

4.17 Graphs of Inverse Trigonometric Functions

466. Inverse Sine Function

$$y = \arcsin x, \quad -1 \leq x \leq 1, \quad -\frac{\pi}{2} \leq \arcsin x \leq \frac{\pi}{2}.$$

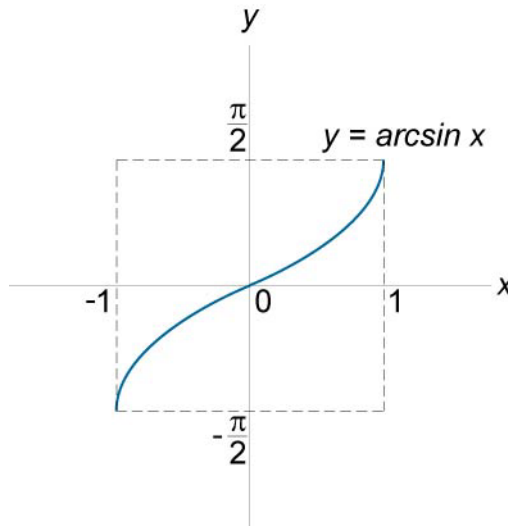


Figure 66.

467. Inverse Cosine Function

$$y = \arccos x, \quad -1 \leq x \leq 1, \quad 0 \leq \arccos x \leq \pi.$$

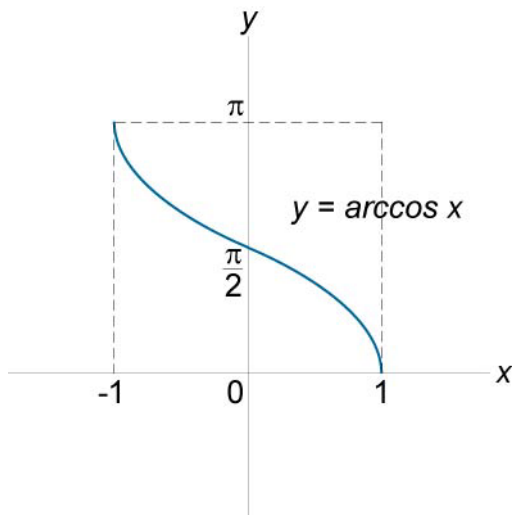


Figure 67.

468. Inverse Tangent Function

$$y = \arctan x, \quad -\infty \leq x \leq \infty, \quad -\frac{\pi}{2} < \arctan x < \frac{\pi}{2}.$$

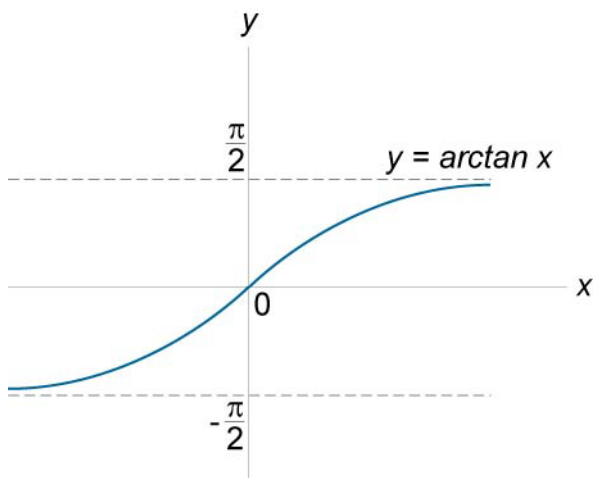
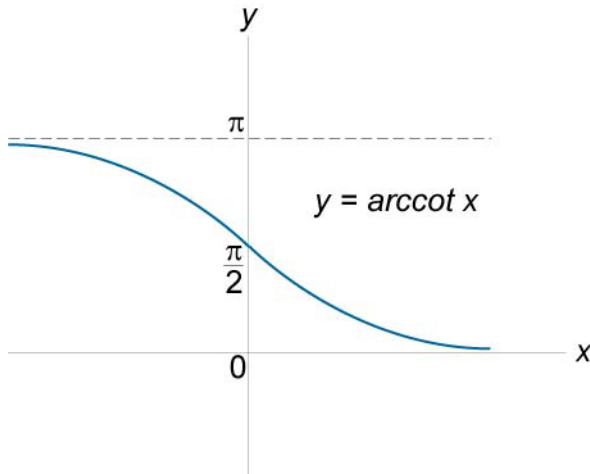


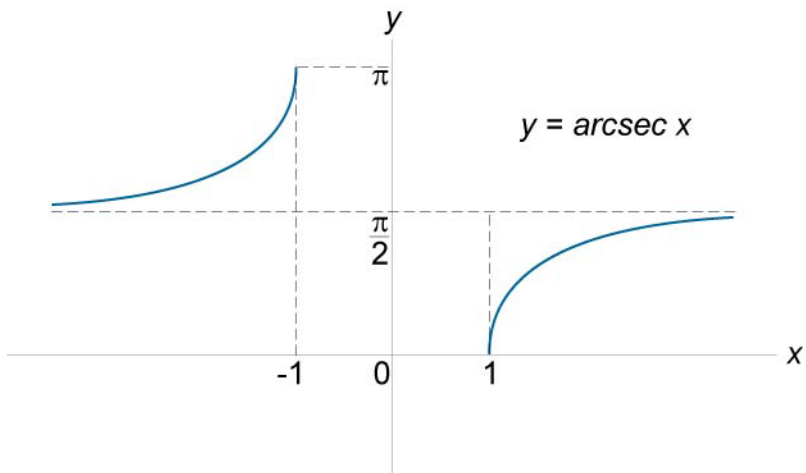
Figure 68.

469. Inverse Cotangent Function

$$y = \operatorname{arccot} x, \quad -\infty \leq x \leq \infty, \quad 0 < \operatorname{arccot} x < \pi.$$

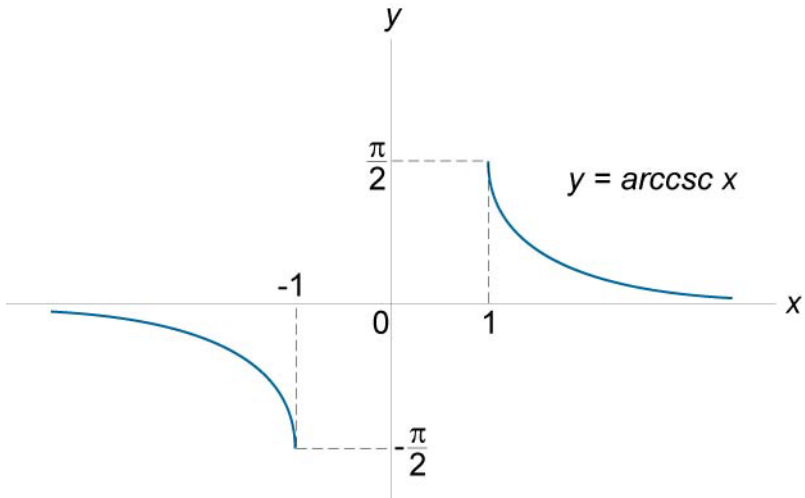
**Figure 69.****470. Inverse Secant Function**

$$y = \operatorname{arcsec} x, \quad x \in (-\infty, -1] \cup [1, \infty), \quad \operatorname{arcsec} x \in \left[0, \frac{\pi}{2}\right) \cup \left(\frac{\pi}{2}, \pi\right].$$

**Figure 70.**

471. Inverse Cosecant Function

$$y = \operatorname{arccsc} x, \quad x \in (-\infty, -1] \cup [1, \infty), \quad \operatorname{arccsc} x \in \left[-\frac{\pi}{2}, 0\right) \cup \left(0, \frac{\pi}{2}\right].$$

**Figure 71.**