4.17 Graphs of Inverse Trigonometric Functions

466. Inverse Sine Function

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

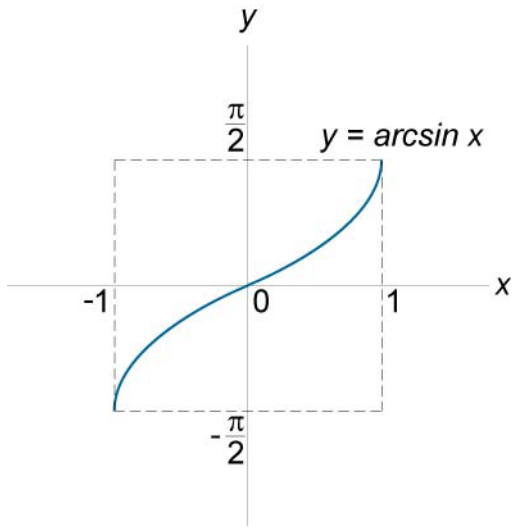

Figure 66.

467. Inverse Cosine Function

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

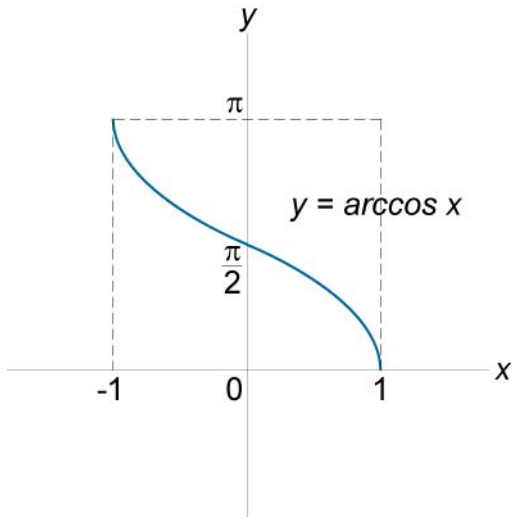

Figure 67.

468. Inverse Tangent Function

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

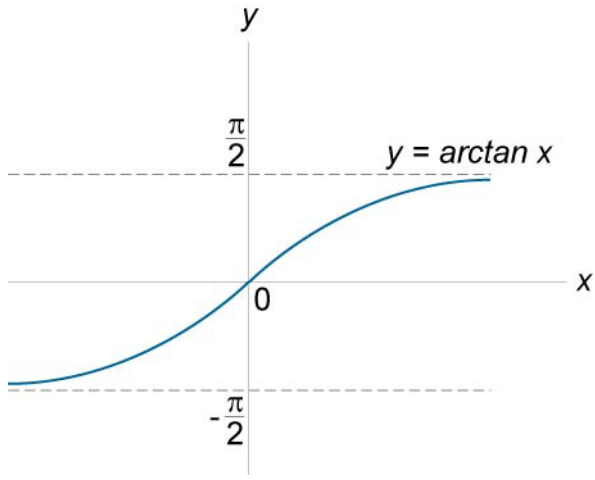

Figure 68.

469. Inverse Cotangent Function

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

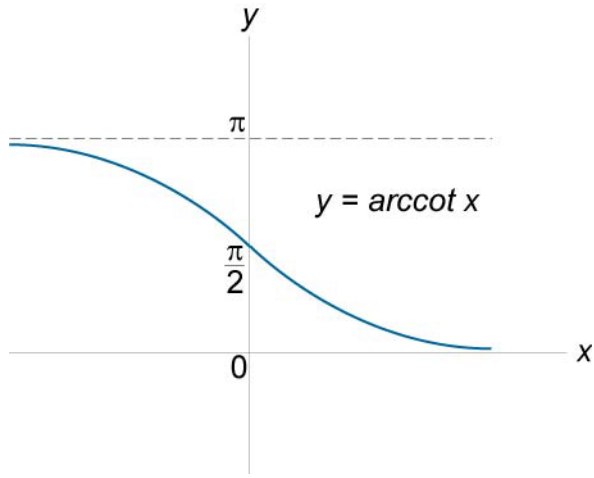

Figure 69.

470. Inverse Secant Function

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

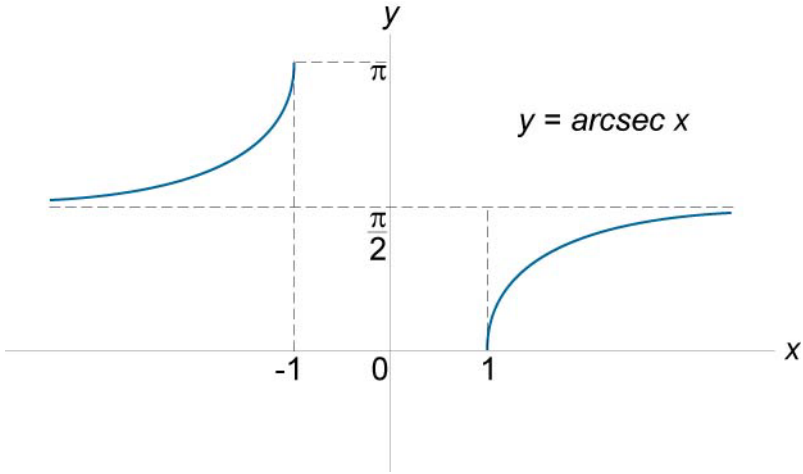

Figure 70.

471. Inverse Cosecant Function

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

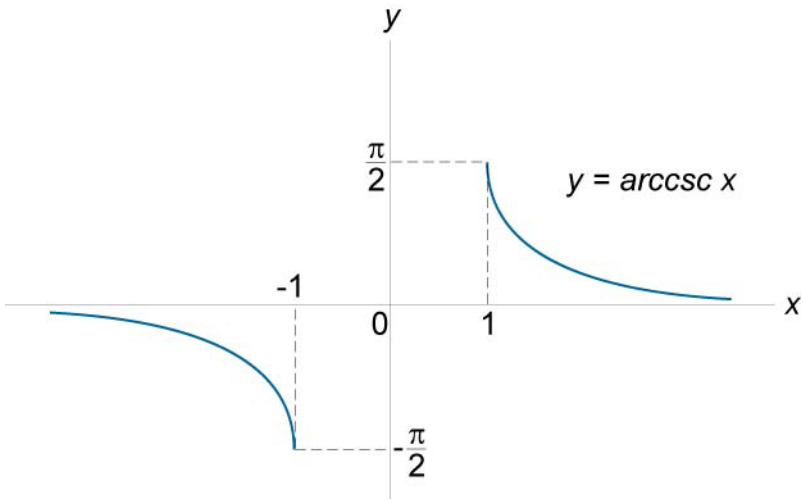

Figure 71.