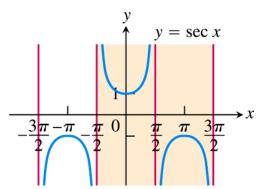


Domain:  $-\infty < x < \infty$ 

Range:  $-1 \le y \le 1$ 

Period:  $2\pi$ 

(a)

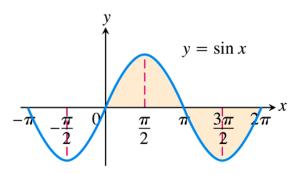


Domain:  $x \neq \pm \frac{\pi}{2}, \pm \frac{3\pi}{2}, \dots$ 

Range:  $y \le -1$  or  $y \ge 1$ 

Period:  $2\pi$ 

(d)

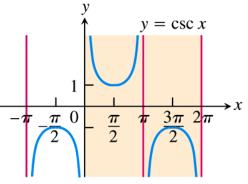


Domain:  $-\infty < x < \infty$ 

Range:  $-1 \le y \le 1$ 

Period:  $2\pi$ 

(b)

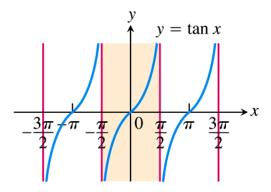


Domain:  $x \neq 0, \pm \pi, \pm 2\pi, \dots$ 

Range:  $y \le -1$  or  $y \ge 1$ 

Period:  $2\pi$ 

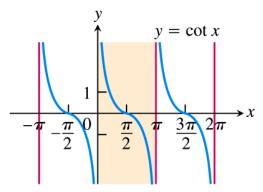
(e)



Domain:  $x \neq \pm \frac{\pi}{2}, \pm \frac{3\pi}{2}, \dots$ 

Range:  $-\infty < y < \infty$ 

Period:  $\pi$  (c)



Domain:  $x \neq 0, \pm \pi, \pm 2\pi, \dots$ 

Range:  $-\infty < y < \infty$ 

Period:  $\pi$ 

(f)

**FIGURE 1.46** Graphs of the six basic trigonometric functions using radian measure. The shading for each trigonometric function indicates its periodicity.