

LESSON
11-2

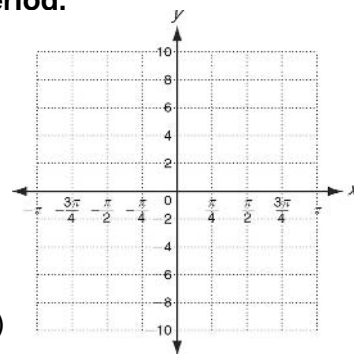
Practice A

Graphs of Other Trigonometric Functions

Graph each function. Use $f(x) = \tan x$ as a guide. Identify the period, x-intercepts, and asymptotes.

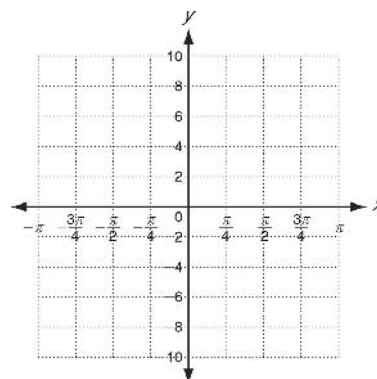
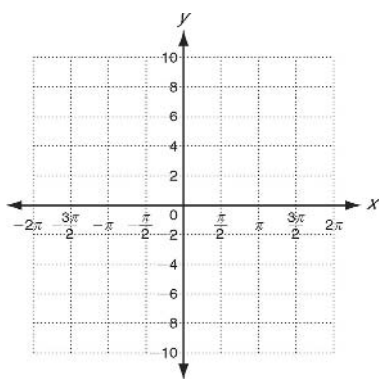
1. $p(x) = \tan(3x)$

- a. Identify the period. _____
- b. Identify the x-intercepts. _____
- c. Identify the asymptotes. _____
- d. Use the information to graph the function.



2. $q(x) = \tan\left(\frac{x}{2}\right)$

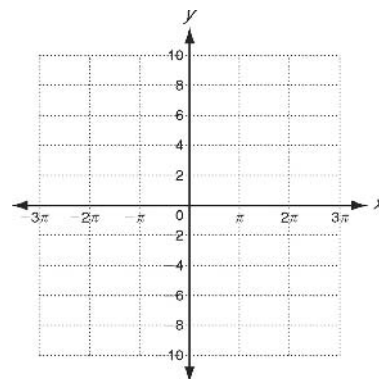
3. $k(x) = \tan(\pi x)$



Graph each function. Use $f(x) = \cot x$ as a guide. Identify the period, x-intercepts, and asymptotes.

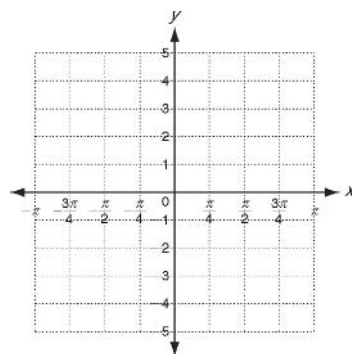
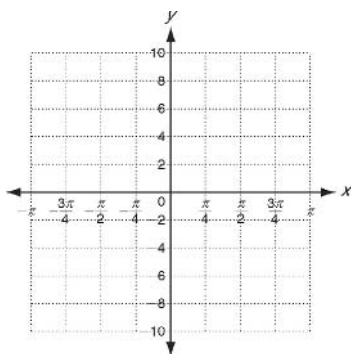
4. $h(x) = 2 \cot\left(\frac{x}{2}\right)$

- a. Identify the period. _____
- b. Identify the x-intercepts. _____
- c. Identify the asymptotes. _____
- d. Use the information to graph the function.



5. $b(x) = \frac{1}{2} \cot(2x)$

6. $b(x) = \frac{1}{2} \cot(x)$



The bay would dry out. The frequency of high tide and low tide would not change.

5. 2 h and 14 h

6. A

7. H

Reading Strategies

1. The period of $g(x)$, $\frac{2\pi}{3}$, is $\frac{1}{3}$ the size of the period of $f(x)$, 2π .
2. The period of $g(x)$ is equal to the period of $f(x)$, 2π .
3. The phase shift is 8; the function is translated 8 units to the right.
4. The amplitude is 3, and the period is 4π .
5. The phase shift is -5 or 5 units left, and the vertical shift is 3 units up.

11-2 GRAPHS OF OTHER TRIGONOMETRIC FUNCTIONS

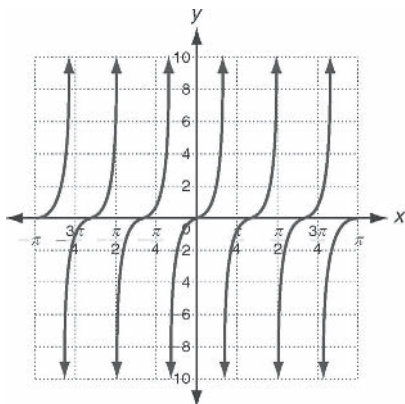
Practice A

1. a. $\frac{\pi}{3}$

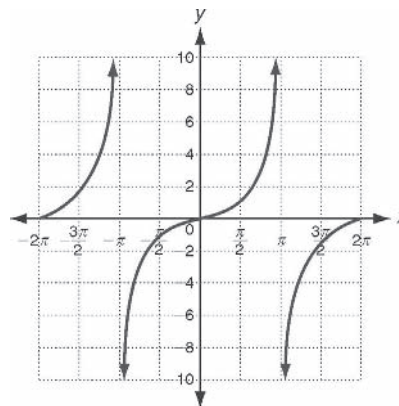
b. $\frac{\pi}{3}n$

c. $\frac{\pi}{6} + \frac{\pi n}{3}$

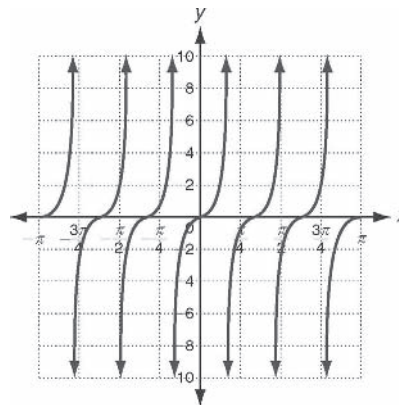
d.



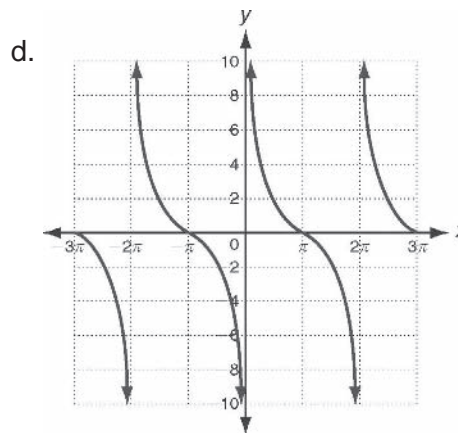
2. Period: 2π , x-intercepts: $2\pi n$; asymptotes: $\pi + 2\pi n$



3. Period: 1; x-intercepts: n ; asymptotes: $\frac{1}{2} + n$

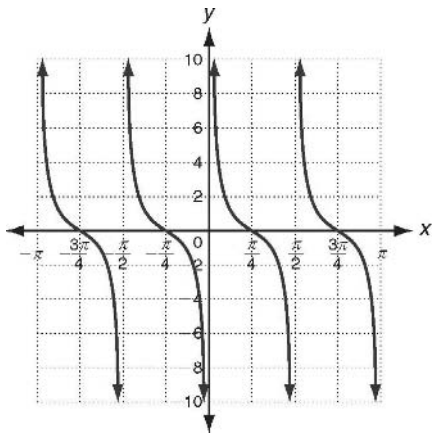


4. a. 2π
b. $\pi + 2\pi n$
c. $2\pi n$



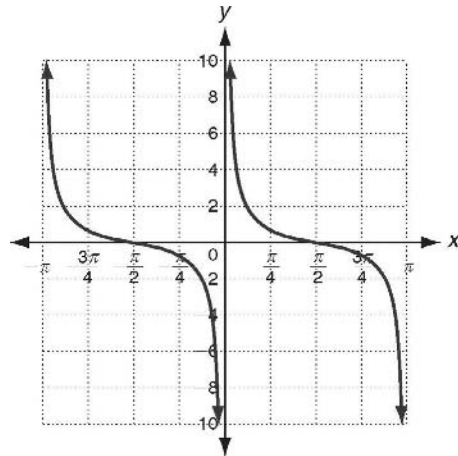
5. Period: $\frac{\pi}{2}$; x-intercepts: $\frac{\pi}{4} + \frac{\pi n}{2}$;

asymptotes: $\frac{\pi n}{2}$



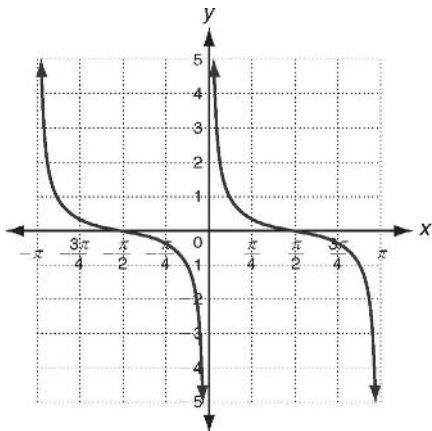
2. Period: π , x-intercepts: $\frac{\pi}{2} + \pi n$;

asymptotes: πn

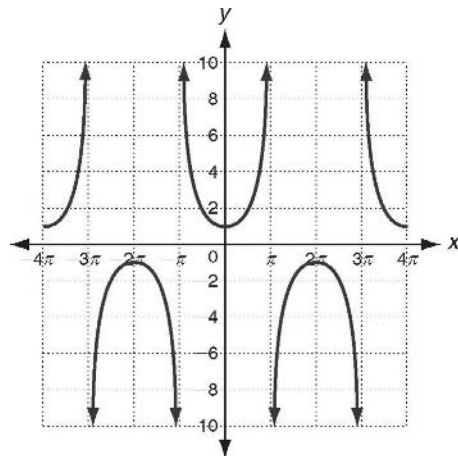


6. Period: π , x-intercepts: $\frac{\pi}{2} + \pi n$;

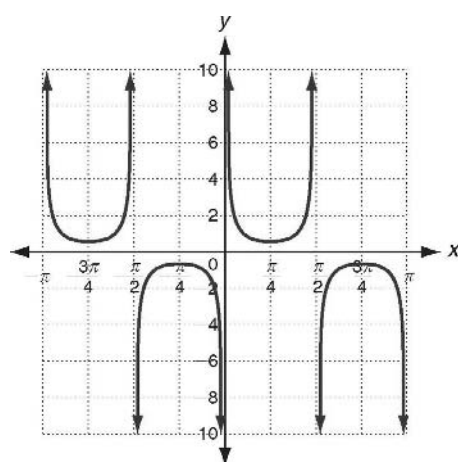
asymptotes: πn



3. Period: 4π , asymptotes: $\pi + 2\pi n$

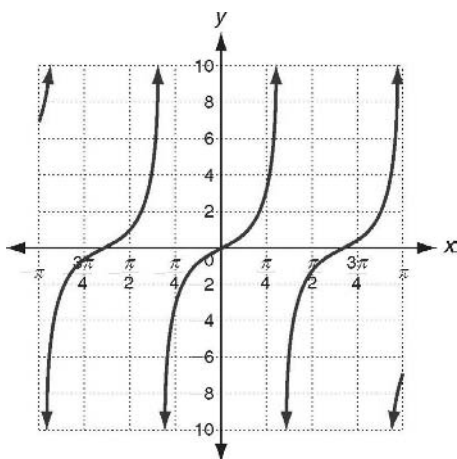


4. Period: π , asymptotes: $\frac{\pi n}{2}$



Practice B

1. asymptotes: $1 + 2n$ Period: 2; x-intercepts: $2n$;



5. a. 10
b. 400 ft