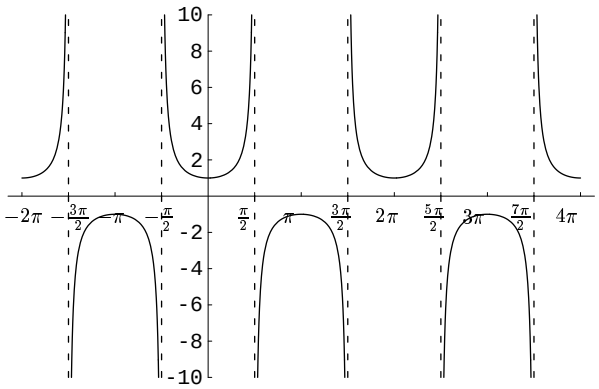
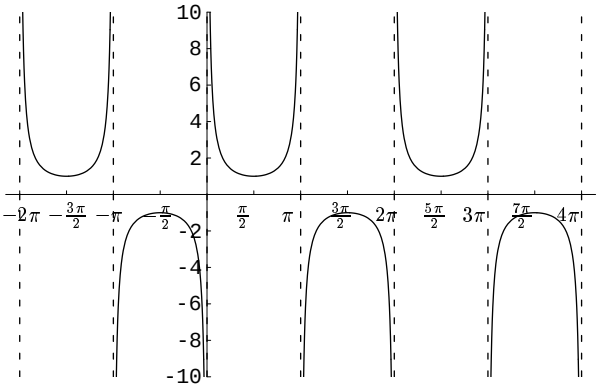


$y = \sec x$



$y = \csc x$

Exercises

Change to radian measure:

1. $50°$
2. $120°$
3. $375°$
4. $-12°$

Change to degree measure:

5. $-\frac{5\pi}{6}$
6. $\frac{35\pi}{12}$
7. $\frac{7\pi}{8}$
8. $-\frac{2\pi}{3}$

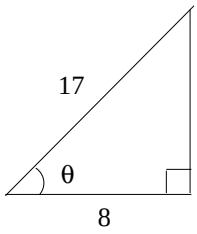
Find the function values:

9. $\sin \frac{5\pi}{3}$
10. $\tan \frac{\pi}{6}$
11. $\csc \frac{11\pi}{4}$
12. $\cos\left(-\frac{2\pi}{3}\right)$
13. $\sec \frac{11\pi}{6}$
14. $\sin\left(-\frac{3\pi}{2}\right)$
15. $\cot \frac{5\pi}{4}$
16. $\cos \frac{5\pi}{6}$

A function value and a quadrant are specified. Find the other five function values.

17. $\sin\theta = \frac{1}{3}$, II
18. $\sec\theta = \frac{5}{3}$, I
19. $\tan\theta = 5$, III
20. $\cot\theta = -4$, IV

21. Find the six trigonometric function values for the following θ:



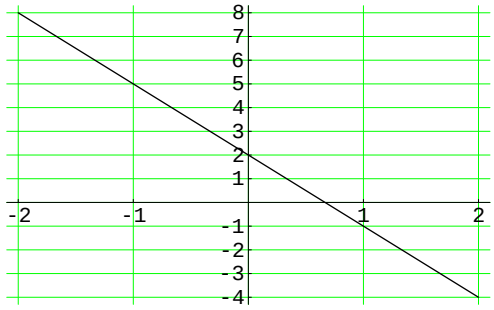
Solve, finding all solutions:

22. $\tan x = \sqrt{3}$
23. $2\cos^2 x = 1$
24. $2\sin^2 x - 5\sin x + 2 = 0$

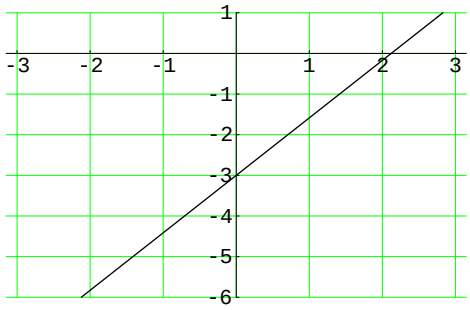
Solve, finding all solutions in $[0, 2\pi]$.

25. $\sec^2 x - 4 = 0$
26. $2\sin^3 x = \sin x$
27. $\cos 2x \sin x + \sin x = 0$
28. $\sec^2 x = 4\tan^2 x$
29. $\cos 2x - \sin x = 1$

29.



31.



7 Completing the Square

1. $(x+5)^2 - 45$
3. $12 - (w + \frac{1}{4})^2$
5. $\frac{166}{5} - 5(k - \frac{11}{5})^2$
7. $9(x-1)^2 + 4(y + \frac{1}{2})^2 = 37$
9. $16(x+2)^2 - 9(y+5)^2 = 144$
11. $2(x - \frac{1}{4})^2 + 2(y + \frac{1}{4})^2 = \frac{5}{4}$

8 Trigonometry

1. $\frac{5\pi}{18}$
3. $\frac{25\pi}{12}$
5. $-150°$
7. $157.5°$
9. $-\frac{\sqrt{3}}{2}$
11. $\sqrt{2}$
13. $\frac{2}{\sqrt{3}}$
15. 1
17. $\cos\theta = -\frac{2\sqrt{2}}{3}$, $\tan\theta = -\frac{1}{2\sqrt{2}}$, $\sec\theta = -\frac{3}{2\sqrt{2}}$, $\cot\theta = -2\sqrt{2}$, $\csc\theta = 3$
19. $\cos\theta = -\frac{1}{\sqrt{26}}$, $\sin\theta = -\frac{5}{\sqrt{26}}$, $\sec\theta = -\sqrt{26}$, $\csc\theta = -\frac{\sqrt{26}}{5}$, $\cot\theta = \frac{1}{5}$

21. $\cos\theta = \frac{8}{17}$, $\sin\theta = \frac{15}{17}$, $\tan\theta = \frac{15}{8}$, $\sec\theta = \frac{17}{8}$, $\csc\theta = \frac{17}{15}$, $\cot\theta = \frac{8}{15}$

23. $\left\{\frac{\pi}{4} + 2n\pi, \frac{3\pi}{4} + 2n\pi, \frac{5\pi}{4} + 2n\pi, \frac{7\pi}{4} + 2n\pi\right\}$ or $\left\{\frac{\pi}{4} + \frac{n}{2}\pi\right\}$

25. $\left\{\frac{\pi}{3}, \frac{2\pi}{3}, \frac{4\pi}{3}, \frac{5\pi}{3}\right\}$ 27. $\left\{0, \pi, 2\pi, \frac{\pi}{2}, \frac{3\pi}{2}\right\}$

29. $\left\{0, \pi, 2\pi, \frac{7\pi}{6}, \frac{11\pi}{6}\right\}$