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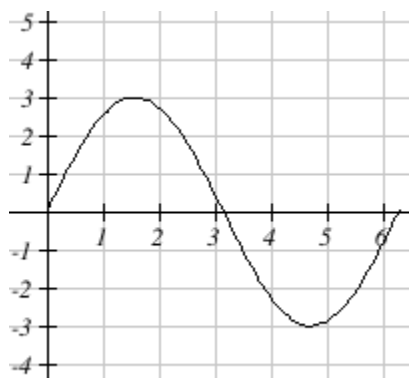
Key - Form 1

1. 47, 33, 37
2. 1.2566370614359, 0.3, 1.2566370614359
3. 52°
4. 1.0471975511966
5. $\frac{1}{2}$, $\frac{\sqrt{3}}{2}$, $\frac{1}{\sqrt{3}}$, 2, $\frac{2}{\sqrt{3}}$, $\sqrt{3}$
6. $\sqrt{3}$, 2, $\frac{1}{\sqrt{2}}$
7. 0.45812284729085, 2.182820625327, 1.125, 1.9402850002907, 0.51538820320221
8. $\frac{\sqrt{165}}{13}$, $\frac{2}{\sqrt{165}}$, $\frac{13}{2}$, $\frac{13}{\sqrt{165}}$, $\frac{\sqrt{165}}{2}$
9. 4, $4 \cdot \sqrt{2} = 5.6568542494924$
10. $\frac{4\sqrt{41}}{41}$, $\frac{5\sqrt{41}}{41}$, $\frac{4}{5}$, $\frac{\sqrt{41}}{5}$, $\frac{\sqrt{41}}{4}$, $\frac{5}{4}$
11. 10.392304845413, 12, 60
12. 2.5881904510252, 9.6592582628907, 75
13. $\frac{120}{169} = 0.71005917159763$, $\frac{119}{169} = 0.70414201183432$, $\frac{120}{119} = 1.0084033613445$, $\frac{169}{119} = 1.4201680672269$, $\frac{169}{120} = 1.4083333333333$, $\frac{119}{120} = 0.99166666666667$
14. $\frac{7\sqrt{149}}{149}$, $\frac{10\sqrt{149}}{149}$, $\frac{7}{10}$, $\frac{\sqrt{149}}{10}$, $\frac{\sqrt{149}}{7}$, $\frac{10}{7}$
15. $\frac{88}{137} = 0.64233576642336$, $\frac{105}{137} = 0.76642335766423$, $\frac{88}{105} = 0.83809523809524$, $\frac{137}{105} = 1.3047619047619$, $\frac{137}{88} = 1.5568181818182$, $\frac{105}{88} = 1.1931818181818$
16. $\tan(35^\circ) = \frac{91}{x_1}$ & $\tan(44^\circ) = \frac{91}{x_2}$ & $x = x_1 + x_2 = 224.19472716847$
17. $\tan(26^\circ) = \frac{97}{x_2}$ & $\tan(54^\circ) = \frac{97}{x_1}$ & $x = x_2 - x_1 = 128.40484741667$
18. 31.606026899044
19. 287.75114919799
20. 5181.0201926006
21. 553.42614922892
22. 318.05916548197

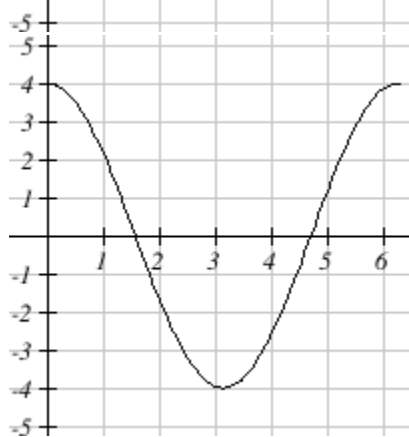
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Key - Form 1

1.



2.



3. $8 \cdot \sin(x - 5) - 8$

4. $6, 1.0471975511966$

5. $2, 50.265482457437$

6. $2, 5, -2$

7. $5, 0.78539816339745, 3, \text{Right}, 4$

8. $5, 1.0471975511966, 7, \text{Right}, 3$

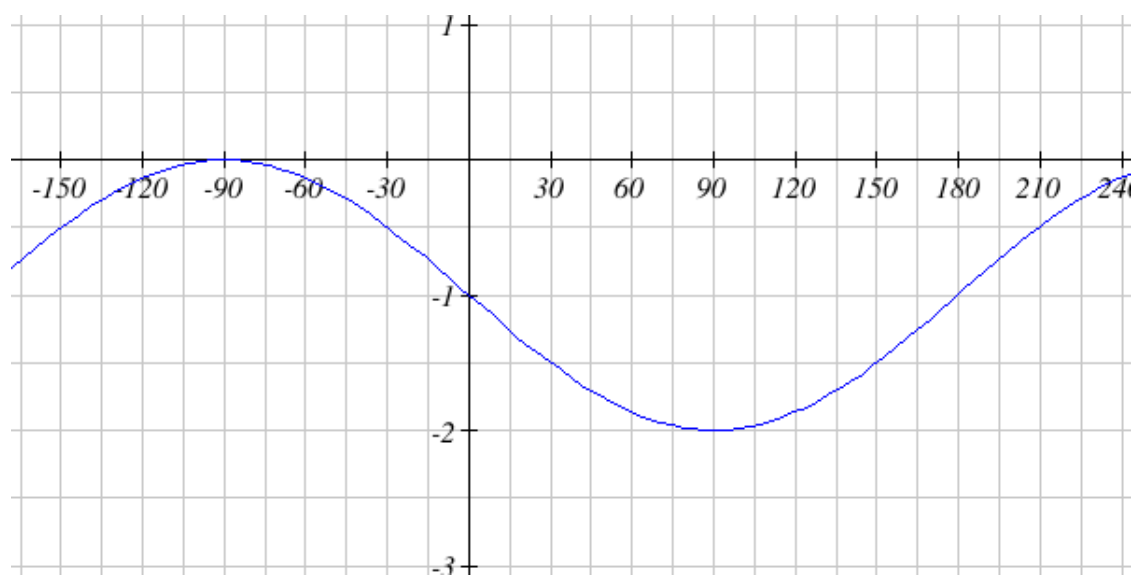
9. $5, 12, 2, \text{Left}, 3$

10. $y = 4\sin\left(\frac{\pi}{3}x\right) + 1$

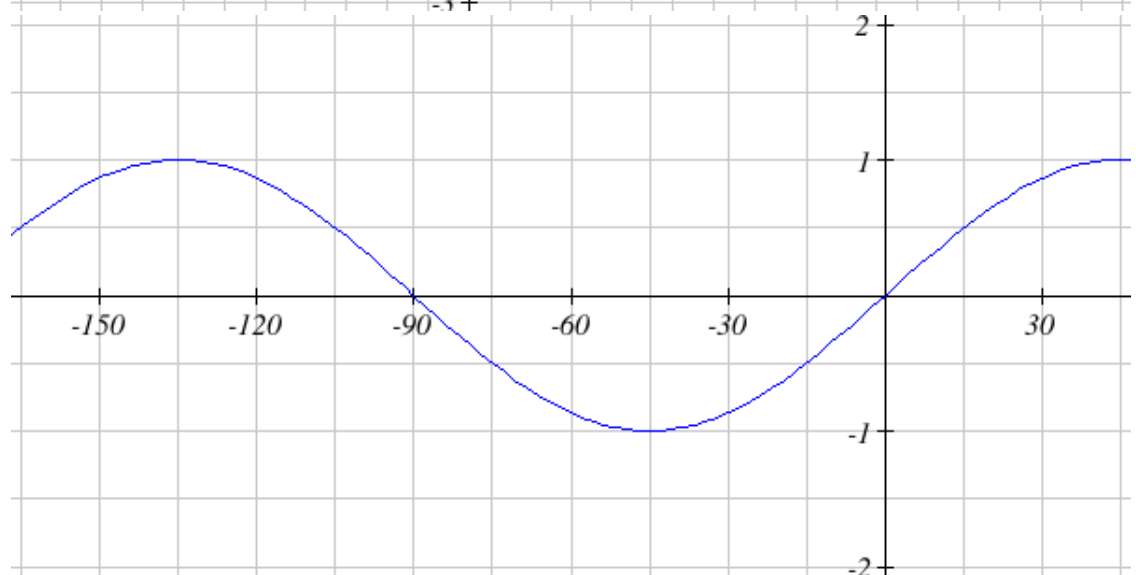
11. $y = 3\cos\left(\frac{\pi}{7}x\right) + 0$

12. $4\sin\left(\frac{\pi}{3}x\right)$

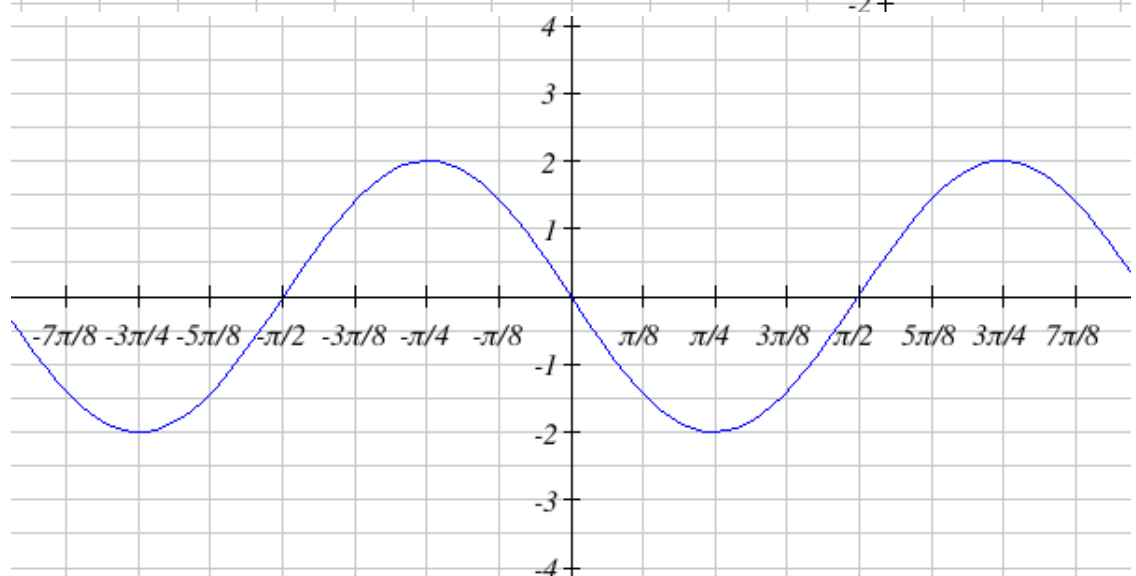
13.

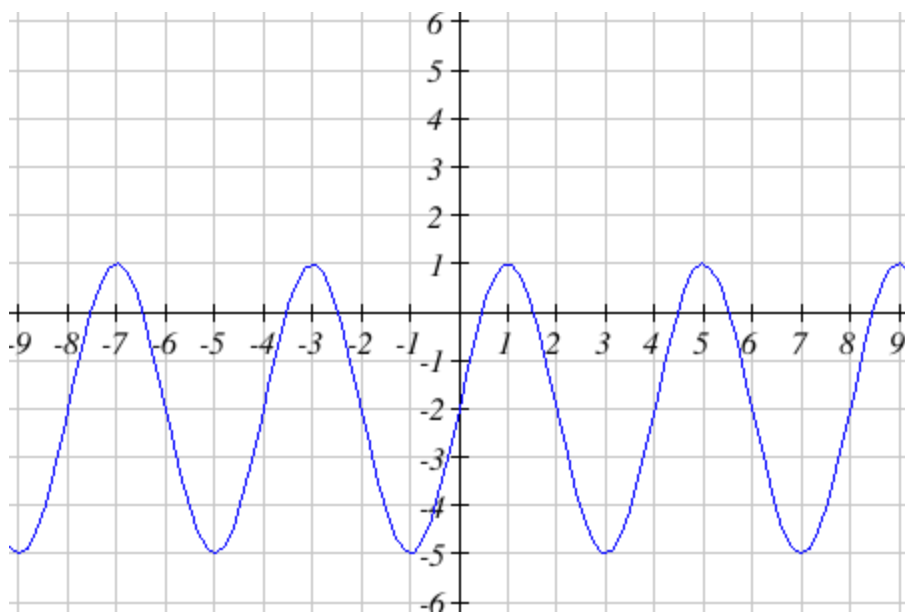


14.

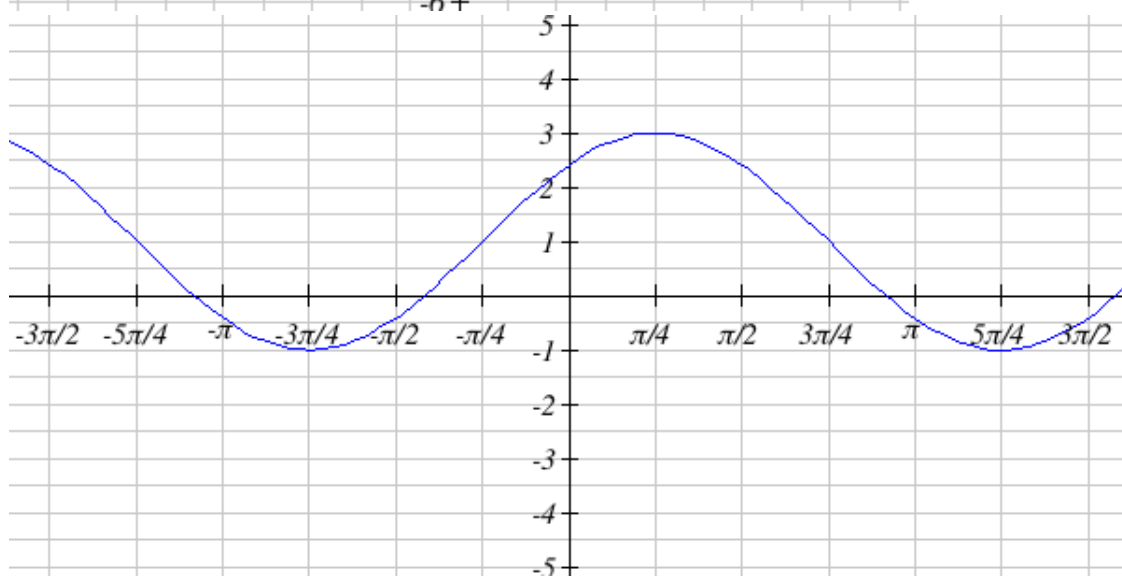


15.

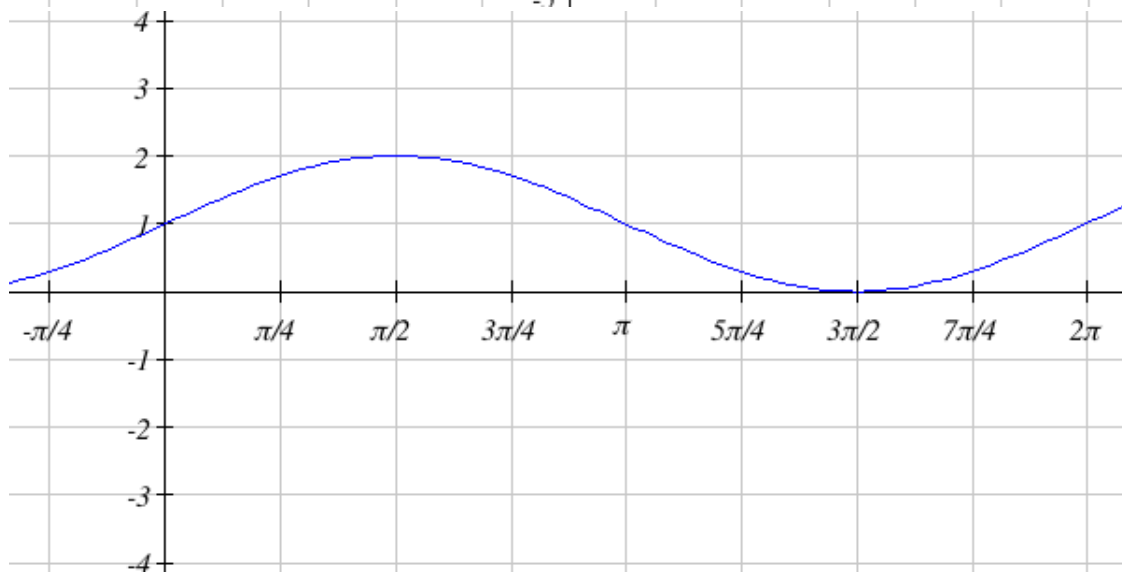




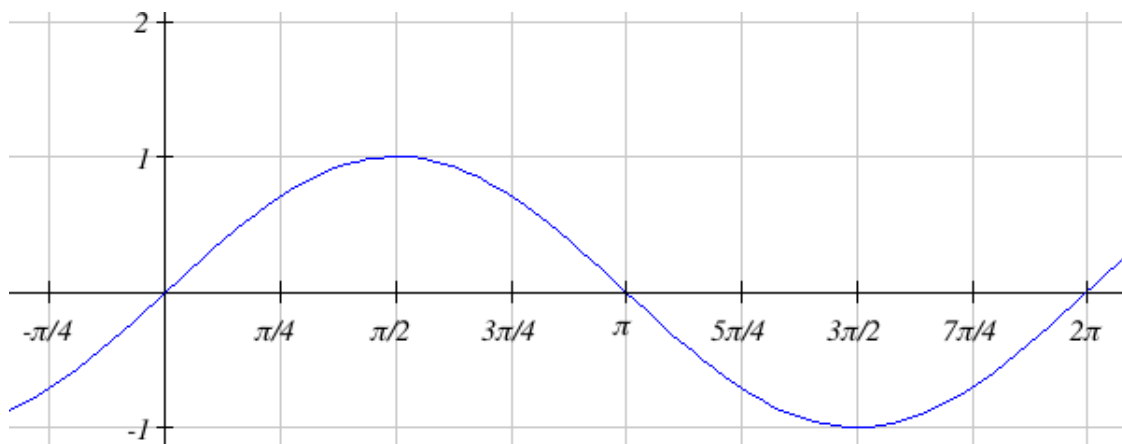
16.



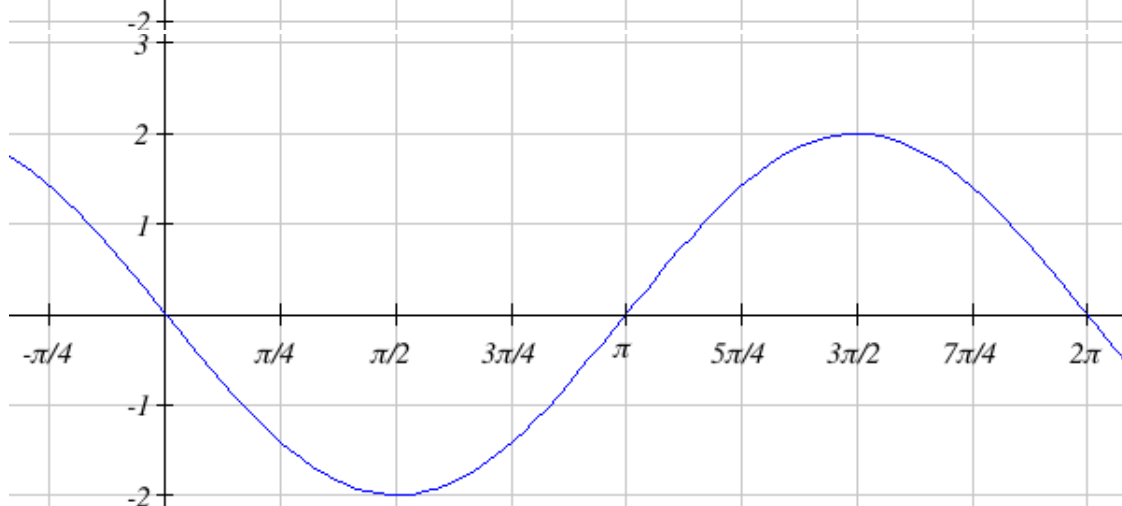
17.



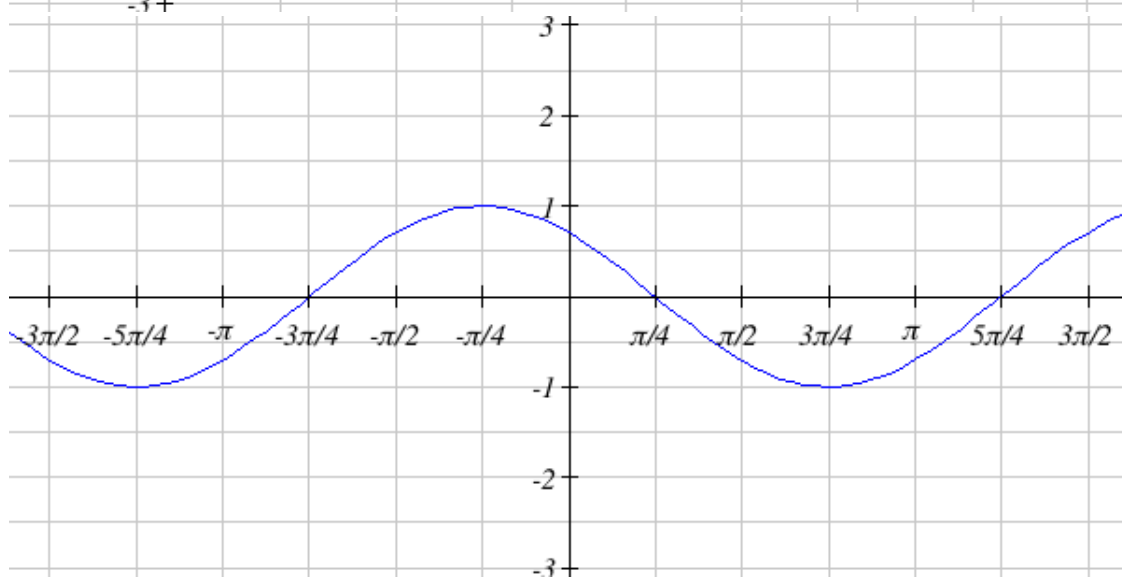
18.



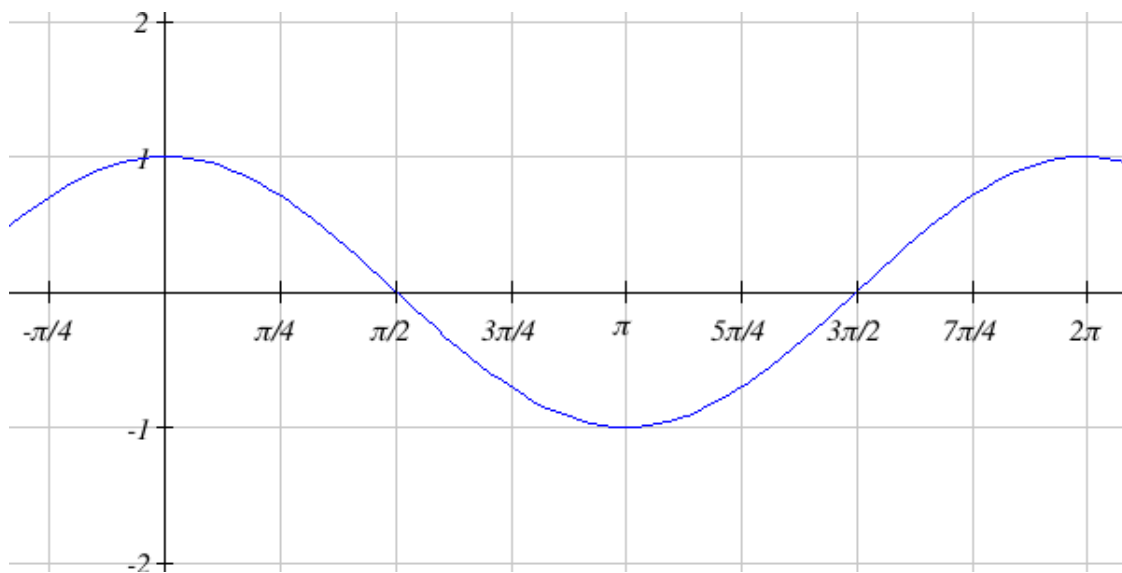
19.



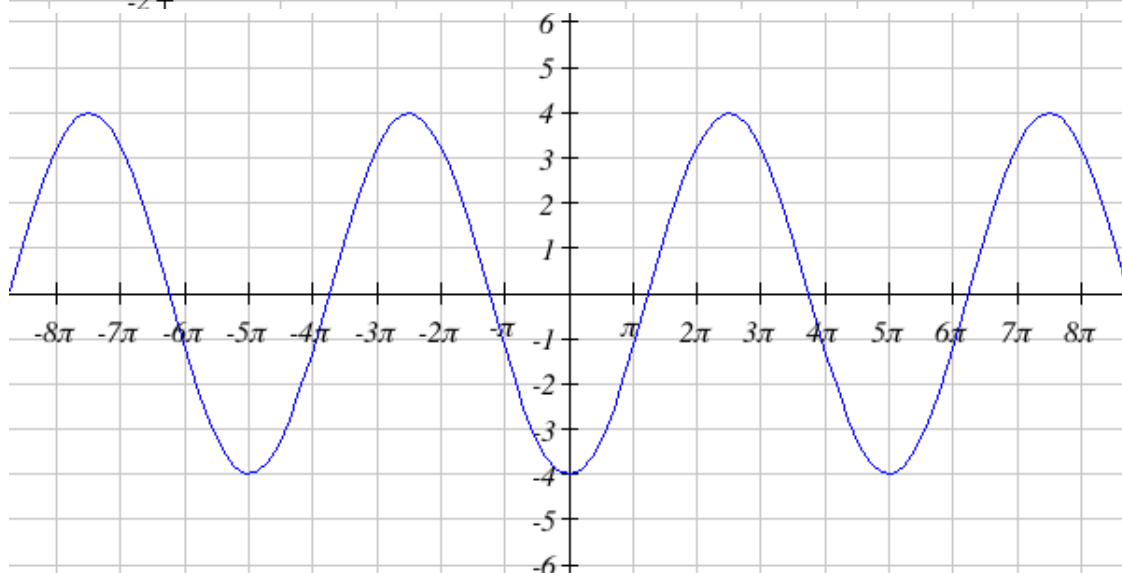
20.



21.



22.



23.

24. $70 - 11 \cdot \sin\left(\frac{\pi}{12} \cdot t\right)$

25. 7.5, 11.5, 4, 19

26. $-15 \cdot \cos\left(\frac{\pi}{2} \cdot t\right) + 19$

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Key - Form 1

1. $\frac{\pi}{2}, \frac{3\pi}{2}$
2. $\frac{\pi}{2}, \frac{3\pi}{2}, 0, \pi$
3. $y = \csc(x)$
4. $y = \tan(x)$
5. e c a b
6. $\frac{5}{7}$
7. $\frac{16\pi}{5}$
8. $\frac{4}{9}$
9. $\frac{\pi}{3}, 2, \text{Right}$
10. $\frac{2\pi}{3}, 8, \text{Left}$
11. $3, 5, \text{Left}$
12. $2\sec\left(\frac{2\pi}{5}x\right) + 1$
13. $2\tan(x) - 2$
14. $2\tan\left(\frac{\pi}{2}x\right)$
15. $f(x) = -4\tan\left(\frac{\pi}{4}x\right) - 1$

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Key - Form 1

1. $-\frac{\pi}{2}, -\frac{\pi}{3}, \frac{\pi}{2}$
2. $\frac{\pi}{6}, \frac{\pi}{3}, \frac{5\pi}{6}$
3. $\frac{\pi}{4}, -\frac{\pi}{6}, \frac{\pi}{6}$
4. 0.95206763612265
5.
Quadrant 3
Quadrant 4 ,
Quadrant 4
6.
Quadrant 2
Quadrant 3 ,
Quadrant 2
7. b e d f
8. 0.6
9. *DNE*
10. $\frac{-3\pi}{7}$
11. $\frac{-5\pi}{12}$
12. $\frac{\pi}{4}$
13. $\frac{\pi}{4}$
14. -50
15. 1.3
16. $\frac{-4\pi}{9}$
17. 1
18. 63.434948822922
19. $\frac{\pi}{3}$
20. $\frac{\pi}{4}$
21. $\frac{\sqrt{8}}{3}$
22. $\frac{3}{\sqrt{9+a^2}}$
23. 20.56 , 8.54 , 8
24. $\frac{1}{\sqrt{y^2+1}}$
25. $\frac{\sqrt{1-x^2}}{x}$

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Key - Form 1

1. 10.24695076596 , 37.979872444852 , 52.020127555148
2. 7.2801098892805 , 74.054604099077 , 15.945395900923
3. 1.819851171331 , 5.3208888623796 , 20
4. 1.2155372436685 , 6.8936542710855 , 80
5. 3.1058285412302
6. 12.557035741758
7. 60 , 44
8. $\sin(62^\circ) = \frac{37}{x_1}$ & $\sin(54^\circ) = \frac{x_1}{x}$ & $x = 51.797542161485$
9. 421.85321760261
10. 359.15772250744
11. 218
12. $1(\sqrt{3} - \sqrt{2})$
13. 17,993,000
14. 61.6835
15. 4241
16. 234.68233955419

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Key - Form 1

1. $\tan(t)$
2. $\cot(t)$
3. $\sec(t)$
4. $\csc(t)$
5. $\cot^2(t)$
6. $3, -0.1, 0.7, -3.5$
7. $-\csc(x)$
8. -1
9. 1
10. $\sin(x)$
11. $4, 2$
12. $(\cos(x))^2$
13. $\csc(t)$
14. $\sec(u)\csc(u)$
15. $(2\sin(x) - 1)(\sin(x) - 1)$
16. $(2\sin(x) + 1)(\sin(x) - 1)$
17. $\frac{\sqrt{221}}{10}$
18. $7\sin(t), 7\cos(t)$
19. $2\tan(t), 2\sec(t)$
20. $5\sec(t), 5\tan(t)$

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Key - Form 1

1. $\frac{\pi}{6}, \frac{5\pi}{6}$
2. $\frac{\pi}{4}, \frac{3\pi}{4}$
3. $\frac{5\pi}{4}, \frac{7\pi}{4}$
4. $\frac{\pi}{6}, \frac{11\pi}{6}$
5. 0.43344532006989, 2.7081473335199
6. 1.2556032943542, 5.0275820128254
7. $\frac{\pi}{3}, \frac{5\pi}{3}$
8. $\frac{\pi}{2} + k\pi$
9. $\frac{\pi}{2} + 2k\pi$ or $\frac{3\pi}{2} + k\pi$, any integer
10. $\frac{\pi}{4}, -\frac{3\pi}{4}$
11. $\frac{\pi}{4}, \frac{5\pi}{4}$
12. $\frac{7\pi}{6}, \frac{11\pi}{6}, \frac{3\pi}{2}$
13. $\frac{2\pi}{3}, \frac{4\pi}{3}, \pi$, k any integer
14. $0 + 2k\pi$
15. $\pi + 2k\pi$ or $-\pi + 2k\pi$, any integer
16. $2k\pi$, any integer
17. $\frac{\pi}{6}, \frac{5\pi}{6}, \frac{3\pi}{2}$
18. $\arctan(2), \pi + \arctan(2)$
19. REMOVED
20. $\frac{4\pi}{9}, \frac{5\pi}{9}, \frac{10\pi}{9}, \frac{11\pi}{9}, \frac{16\pi}{9}, \frac{17\pi}{9}$
21. 0,60,120,180,240,300
22. 105,165,285,345