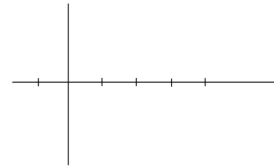
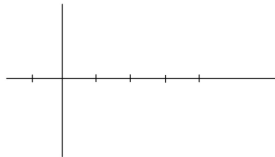


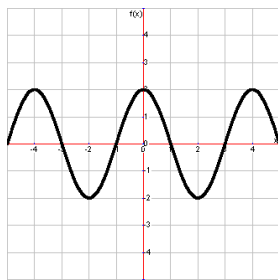
Chapter 8 Review Trig MA

- Write the equation of the line with inclination 40° containing the point $(3, 2)$. Give values to the nearest hundredth.
- Find the angle of inclination for the line $8x + 3y = 10$
- Give the amplitude and period of $y = -2\sin\frac{1}{2}x$. Then sketch the graph.
- Give the amplitude and period of $y = 2 - 3\cos 2\left(x - \frac{\pi}{2}\right)$. Then sketch the graph.



Write an equation in the specified form for the graph shown .

- as a sine function
- as a cosine function.



Simplify.

7. $\frac{1}{\sin\left(\frac{\pi}{2} - x\right)}$

8. $(1 + \csc \theta)(1 - \csc \theta)$

9. $\sec x \tan(-x) \cos x$

10. $\cos(90^\circ - A)(\csc A - \sin A)$

11. $\frac{\cot x + \tan x}{\tan x}$

12. $\frac{\cos^2 x}{1 - \sin x}$

Solve over $0 \leq x < 2\pi$ to the nearest hundredth of a radian when necessary.

13. $1 + \cos 4x = 0$

14. $(\sin x)(-1 + \sin x) = \cos^2 x$

15. $2 \tan x \csc x + 3 \tan x = 0$

Solve over $0 \leq x < 360^\circ$ to the nearest tenth of a degree when necessary.

16. $2 \csc\left(\frac{x}{3}\right) = 5$

17. $(2 \sin x - 1)(3 \cos x - 1) = 0$

18. $10 \cos^2 x - 5 \sin^2 x - \cos x - 1 = 0$

19. $4 \sin x + 9 \cos x = 0$

20. $3 \cos 3x - 1 = 0$

Solve over $0 \leq x < 2\pi$. Give solutions in terms of π

21. $\sin x \cos x = \sin x$

22. $\tan^3 x = 3 \tan x$

23. $\sin^2 x - \sin x = 0$

24. $2 \sin 2x + 1 = 0$

Answers:

1. $y = 0.84x - 0.52$
2. 110.6°
3. amp = 2; per = 4π
4. amp = 3, per = π
5. $y = 2\sin\frac{\pi}{2}(x-3)$
6. $y = 2\cos\frac{\pi}{2}x$
7. $\sec x$
8. $-\cot^2 x$
9. $-\tan x$
10. $\cos^2 A$
11. $\csc^2 x$
12. $1 + \sin x$
13. $\frac{\pi}{4}, \frac{3\pi}{4}, \frac{5\pi}{4}, \frac{7\pi}{4}$
14. $\frac{\pi}{2}, \frac{7\pi}{6}, \frac{11\pi}{6}$
15. $0, \pi, 3.87, 5.55$
16. 70.8°
17. $30^\circ, 70.5^\circ, 150^\circ, 289.5^\circ$
18. $126.9^\circ, 233.1^\circ, 48.2^\circ, 311.8^\circ$
19. $114^\circ, 294^\circ$
20. $23.5^\circ, 96.5^\circ, 143.5^\circ, 216.5^\circ, 263.5^\circ, 336.5^\circ$
21. $0, \pi$
22. $0, \frac{\pi}{3}, \frac{2\pi}{3}, \pi, \frac{4\pi}{3}, \frac{5\pi}{3}$
23. $0, \frac{\pi}{2}, \pi$
24. $\frac{7\pi}{12}, \frac{11\pi}{12}, \frac{19\pi}{12}, \frac{23\pi}{12}$

