

Directions: For problems 1 – 6, find all solutions on the interval $0 \leq x < 2\pi$.

1. $\sin(x) = \frac{\sqrt{2}}{2}$

2. $\cos(x) = \frac{1}{2}$

3. $\cos(x) = 0$

4. $\tan x = -1$

5. $\sin x = -\frac{1}{2}$

6. $\tan x = \sqrt{3}$

Directions: For problems 7 – 12, find all solutions that satisfy the given equations.

7. $\sin x = \frac{\sqrt{3}}{2}$

8. $\cos x = \frac{\sqrt{2}}{2}$

9. $\tan x = 1$

10. $\sin x = -1$

11. $\cos x = -\frac{\sqrt{3}}{2}$

12. $\tan x = -\frac{1}{\sqrt{3}}$

Directions: For problems 13 – 14, find all solutions on the interval $0 \leq x < 2\pi$.

13. $2\cos(x) + 3 = 2$

14. $-4\sin x = 2\sqrt{3}$

15. Let $f(x) = 5 - 3\cos x$ and $g(x) = 5$. In the xy -plane, what are the x -coordinates of the points of intersection of the graph of f and g for $0 \leq x < 2\pi$?
16. Let $f(x) = 6 + 4\sin x$ and $g(x) = 4$. In the xy -plane, what are the x -coordinates of the points of intersection of the graph of f and g for $0 \leq x < 2\pi$?
17. Let $f(x) = 3 + \sqrt{3}\tan x$ and $g(x) = 4$. In the xy -plane, what are the x -coordinates of the points of intersection of the graph of f and g for $0 \leq x < 2\pi$?
18. The function g is given by $g(x) = 2 - 4\cos^2 x$. What are the zeros of g on the interval $0 \leq x < 2\pi$?
19. The function h is given by $h(x) = 2\sin^2 x + \sin x$. What are the zeros of h on the interval $0 \leq x < 2\pi$?
20. What are all values of θ , for $0 \leq \theta < 2\pi$, where $\cos^2 \theta = \cos \theta + 2$?

21. Let $f(x) = 2\sin^2 x$ and $g(x) = -\sqrt{2}\sin x$. In the xy -plane, what are the x -coordinates of the points of intersection of the graph of f and g for $0 \leq x < 2\pi$?

22. Let $f(x) = 4\cos^3 x$ and $g(x) = 3\cos x$. In the xy -plane, what are the x -coordinates of the points of intersection of the graph of f and g for $0 \leq x < 2\pi$?

23. Let $f(x) = \tan^2 x$ and $g(x) = -\tan x$. In the xy -plane, what are the x -coordinates of the points of intersection of the graph of f and g for $0 \leq x < 2\pi$?