Directions: For problems 1 – 8, find all solutions on the interval $0 \le x < 2\pi$.

1. $2\sin x + \sqrt{3} = 0$

2. $6\cos x - 1 = 2$

3. $4\tan x + 7 = 3$

4. $\sqrt{3}\tan x + 5 = 6$

5. $8\cos^2 x + 3 = 5$

6. $2\tan^2 x - 5 = 1$

7. $6\sin^2 x + 9 = 12$

8. $4\sin^2 x + 2 = 5$

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

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

11. Let $f(x) = 4\cos^2 x + 5$ and $g(x) = 8$. In the xy-plane, what are the x-coordinates of the points of intersection of the graph of f and g for $0 \le x < 2\pi$?

12. The function g is given by $g(x) = \sqrt{3}\cos x + 2\cos x \sin x$. What are the zeros of g on the interval $0 \le x < 2\pi$?

13. The function h is given by $h(x) = 3\tan^2 x - 1$. What are the zeros of h on the interval $0 \le x < 2\pi$?

14. What are all values of θ, for $0 \le \theta < 2\pi$, where $4\sin^2 \theta = 1$?