1. Giải các phương trình sau:
   (a) $\sin x + \cos x + 2\sin x \cos x - 1 = 0$
   (b) $6(\sin x - \cos x) - \sin x \cos x - 6 = 0$
   (c) $\sin^3 + \cos^3 x = 2(\sin x + \cos x) - 1$
   (d) $\sin^3 x + \cos^3 x = 1$
   (e) $1 + \sin^3 x + \cos^3 x = \frac{3\sin 2x}{2}$
   (f) $\sin^3 x + \cos^3 x = \sin 2x + \sin x + \cos x$
2. Giải các phương trình sau:
   (a) $\sin x - \sin 3x + 2\sin 5x = 0$
   (b) $\cos \dfrac{4x}{3} = \cos^2 x$
   (c) $8\cos^3 \left(x + \dfrac{\pi}{3}\right) = \cos 3x$
   (d) $\sin^3 x + \cos^3 x = 1 - \dfrac{1}{2}\sin 2x$
   (e) $2\cos^3 x + \sin x + 1 = 2\sin^2 x$
   (f) $8\sin x = \dfrac{\sqrt{3}}{\cos x} + \dfrac{1}{\sin x}$
   (g) $\tan^2 x = \dfrac{1 - \cos^3 x}{1 - \sin^3 x}$
3. Giải các phương trình sau:
   (a) $(2\cos 2x + 1)(\sin 2x - \cos 2x + 1) = 2(\cos x + \sin x)$
   (b) $\cos^2 x + \cos^2 2x + \cos^2 3x + \cos^2 4x = \dfrac{3}{2}$
   (c) $2\cos 3x(2\cos 2x + 1) = 1$
   (d) $\sin 2x + \cos 2x + 3\sin x - \cos x - 2 = 0$
4. Giải các phương trình sau:
   (a) $\sin 2x - \cos 2x + 3\sin x - \cos x - 1 = 0$
   (b) $\dfrac{(1 + \sin x + \cos 2x)\sin \left(x + \dfrac{\pi}{4}\right)}{1 + \tan x} = \dfrac{1}{\sqrt{2}}\cos x$
   (c) $(\sin 2x + \cos 2x)\cos x + 2\cos 2x - \sin x = 0$
   (d) $\sin^3 x - \sqrt{3}\cos^3 x = \sin x \cos^2 x - \sqrt{3}\sin^2 x \cos x$
   (e) $2\sin x(1 + \cos 2x) + \sin 2x = 1 + 2\cos x$
   (f) $\dfrac{(1 - 2\sin x)\cos x}{(1 + 2\sin x)(1 - \sin x)} = \sqrt{3}$
   (g) $\dfrac{1 + \sin 2x + \cos 2x}{1 + \cot^2 x} = \sqrt{2}\sin x \sin 2x$
   (h) $\sin 2x \cos x + \sin x \cos x = \cos 2x + \sin x + \cos x$