

Solving Trig Equations (Radians exactvalues)

Solve the following equations for $0 \leq x \leq 2\pi$

a) $2 \sin x - 1 = 0$

b) $\sqrt{3} \tan x - 1 = 0$

c) $\sqrt{2} \sin x - 1 = 0$

d) $\tan^2 x - 1 = 0$

e) $2 \cos x - 1 = 0$

f) $\sqrt{2} \cos x + 1 = 0$

g) $\tan x = \sqrt{3}$

h) $2 \cos^2 x - 1 = 0$

i) $2 \sin x + \sqrt{3} = 0$

j) $2 \cos x - \sqrt{3} = 0$

Solutions

a) $\frac{\pi}{6}, \frac{5\pi}{6}$ b) $\frac{\pi}{6}, \frac{7\pi}{6}$ c) $\frac{\pi}{4}, \frac{3\pi}{4}$ d) $\frac{\pi}{4}, \frac{3\pi}{4}, \frac{5\pi}{4}, \frac{7\pi}{4}$

e) $\frac{\pi}{3}, \frac{5\pi}{3}$ f) $\frac{3\pi}{4}, \frac{5\pi}{4}$ g) $\frac{\pi}{3}, \frac{4\pi}{3}$ h) $\frac{\pi}{4}, \frac{3\pi}{4}, \frac{5\pi}{4}, \frac{7\pi}{4}$

i) $\frac{4\pi}{3}, \frac{5\pi}{3}$ j) $\frac{\pi}{6}, \frac{11\pi}{6}$