

1. (Simple trigonometric equations) Find all solutions θ in the interval $[0, 2\pi]$ for each of the following equations.

(a) $2 \cos \theta = -\sqrt{2}$

(b) $\tan 2\theta = -1$

(c) $2 \sin \frac{\theta}{2} = \sqrt{3}$

2. (Harder trigonometric equations) Find all solutions θ in the interval $[0, 2\pi]$ for each of the following equations.

(a) $\sin \theta - 2 \sin \theta \cos \theta = 0$

$$(b) 2 \sin^2 \theta - \sin \theta - 1 = 0$$

$$(c) 2 \sin^2 \theta = 1$$

$$(d) 2 \cos^2 2\theta - 11 \cos 2\theta = -5$$