Solve the equation exactly: $sin^2\theta - 2sin\theta + 1, \quad 0 \leq \theta < 2\pi$

$\sin^2\theta - 2\sin\theta + 1 = 0$

$(\sin\theta - 1)(\sin\theta - 1) = 0$

$x^2 - 2x + 1 = 0$

$(x-1)(x-1) = 0$

$\sin\theta - 1 = 0$ $\quad$ $\sin\theta - 1 = 0$

$\sin\theta = 1$ $\quad$ $\sin\theta = 1$

$\frac{\pi}{2}$ $\quad$ $\frac{\pi}{2}$

Solve the equation exactly: $2cos^2\theta + cos\theta - 1, \quad 0 \leq \theta < 2\pi$

$2\cos^2\theta + \cos\theta - 1 = 0$

$2x^2 + x - 1 = 0$

$(2\cos\theta - 1)(\cos\theta + 1) = 0$

$2\cos\theta - 1 = 0$ $\quad$ $\cos\theta + 1 = 0$

$\cos\theta = \frac{1}{2}$ $\quad$ $\cos\theta = -1$

$\frac{\pi}{3}, \frac{5\pi}{3}$ $\quad$ π

Solve the equation exactly: $2sin^2\theta - 5sin\theta + 3 = 0 \quad 0 \leq \theta < 2\pi$

$2\sin^2\theta - 5\sin\theta + 3 = 0$

$(2\sin\theta - 3)(\sin\theta - 1) = 0$

$2\sin\theta - 3 = 0$ $\quad$ $\sin\theta - 1 = 0$

$\sin\theta = \frac{3}{2}$ $\quad$ $\sin\theta = 1$

No sol $\quad$ $\frac{\pi}{2}$

Solve the equation exactly: $cos^2\theta + 3cos\theta - 1, \quad 0 \leq \theta < 2\pi$

$\cos^2\theta + 3\cos\theta - 1 = 0$

$a = 1$

$b = 3$

$c = -1$

42, 44

45, 49

$$\frac{-b \pm \sqrt{b^2 - 4ac}}{2a} = \frac{-3 \pm \sqrt{3^2 - 4(1)(-1)}}{2(1)}$$

$$= \frac{-3 \pm \sqrt{13}}{2}$$

$\frac{-3+\sqrt{13}}{2}$ $\quad$ $\frac{-3-\sqrt{13}}{2}$

1.197 $\quad$ -3.3

Solve over the interval of $[0,2\pi)$

$\sqrt{2}\cos\theta - 1 = 0$

B) $\sqrt{3}\csc\theta - 2 = 0$

$4\sin^2\theta - 1 = 0$

D) $\left(3\cot^2\theta - 1\right)\left(\cot^2\theta - 3\right) = 0$

Solve over the interval of $[0, 2\pi)$

$2\cos^2\theta + \cos\theta = 0$

$\cos\theta(2\cos\theta + 1) = 0$

$\cos\theta = 0$ $\quad \theta = \frac{\pi}{2}, \frac{3\pi}{2}$

$2\cos\theta + 1 = 0$

$2\cos\theta = -1$

$\cos\theta = -\frac{1}{2}$

$\theta = \frac{2\pi}{3}, \frac{4\pi}{3}$

H) $2\sin\theta\cos\theta = \cos\theta$

$2\sin\theta\cos\theta - \cos\theta = 0$

$\cos\theta(2\sin\theta - 1) = 0$

$\cos\theta = 0$ $\quad \theta = \frac{\pi}{2}, \frac{3\pi}{2}$

$2\sin\theta - 1 = 0$

$\sin\theta = \frac{1}{2}$

$\frac{\pi}{6}, \frac{5\pi}{6}$

$\csc^2\theta - \csc\theta = 2$

J) $\frac{\sin^3\theta}{\sin\theta} = \frac{\sin\theta}{\sin\theta}$

$\sqrt{\sin^2\theta} = \sqrt{1}$

$\sin\theta = \pm 1$

$\sin\theta = 0$ $\quad \theta = \frac{\pi}{2}, \frac{3\pi}{2}$

$\sin^3\theta = \sin\theta$

$\sin^3\theta - \sin\theta = 0$

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

$\sin\theta = 0$ $\quad \theta = 0, \pi$

$\sin^2\theta - 1 = 0$

$\sqrt{\sin^2\theta} = \sqrt{1}$

$\sin\theta = \pm 1$

$\theta = \frac{\pi}{2}, \frac{3\pi}{2}$