Solving Trig Equations

① $\theta = \dfrac{2\pi}{3}, \dfrac{5\pi}{3}$

② $\theta = 103°, 343°$

③ $\theta = \dfrac{\pi}{3}, \dfrac{2\pi}{3}, \dfrac{4\pi}{3}, \dfrac{5\pi}{3}$

④ $\theta = \dfrac{\pi}{2} + n\pi$

$\theta = \dfrac{\pi}{4} + 2n\pi$

$\theta = \dfrac{3\pi}{4} + 2n\pi$

⑤ $\theta = \dfrac{2\pi}{3} + n\pi$

⑥ $\theta = 0, \pi$

$\theta = \dfrac{7\pi}{6}, \dfrac{11\pi}{6}$

⑦ $\theta = \dfrac{\pi}{3}, \dfrac{5\pi}{3}$

⑧ no solution

⑨ $\theta = \pi + 2n\pi$

$\theta = \dfrac{\pi}{3} + 2n\pi$

$\theta = \dfrac{5\pi}{3} + 2n\pi$

⑩ $\theta = \dfrac{\pi}{4}, \dfrac{3\pi}{2}$

extraneous

$\theta = 0$

⑪ $\theta = \dfrac{\pi}{6}, \dfrac{\pi}{3}, \dfrac{7\pi}{6}, \dfrac{4\pi}{3}$

⑫ $\theta = 150°, 330°$

⑬ $\theta = 28°, 178°, 208°, 358°$

⑭ $\theta \approx 31°, 211°$ (calc)

$\theta = 135°, 315°$

⑮ used Quadratic formula and calculator

$\theta \approx .67$ rad and 2.48 rad

⑯ $\theta = \dfrac{\pi}{9}, \dfrac{5\pi}{9}, \dfrac{7\pi}{9}, \dfrac{11\pi}{9}, \dfrac{13\pi}{9}, \dfrac{17\pi}{9}$