(48) $(2\sin\theta)^2 = (1-2\cos\theta)^2$

$4\sin^2\theta = 1 - 4\cos\theta + 4\cos^2\theta$

$4(1-\cos^2\theta) = 1 - 4\cos\theta + 4\cos^2\theta$

$4 - 4\cos^2\theta = 1 - 4\cos\theta + 4\cos^2\theta$

$0 = 8\cos^2\theta - 4\cos\theta - 3$

$\cos\theta = \dfrac{4 \pm \sqrt{16 - 4(8)(-3)}}{16}$

$\cos\theta = \dfrac{4 \pm \sqrt{112}}{16}$

$\theta = 24.295^\circ$ (1), 335.705° (2), 114.295° (3), 245.705° (4)

$2\sin\theta = 1 - 2\cos\theta$

(1) $.8228 \neq -.8228$

(2) $-.8228 = -.8228$ ✓

(3) $1.82287 = 1.8228$ ✓

(4) $-1.82287 \neq 1.8828$

Check answers into original problem