

Solve the equation $2\cos 2x = 3 - 5\sin x$.

SCORE: ____ / 14 PTS

$$2(1 - 2\sin^2 x) = 3 - 5\sin x$$

$$2 - 4\sin^2 x = 3 - 5\sin x$$

$$0 = 4\sin^2 x - 5\sin x + 1$$

$$0 = (4\sin x - 1)(\sin x - 1)$$

$$\sin x = \frac{1}{4} \text{ or } 1$$

$$x = 0.2527 + 2n\pi \text{ or } 2.8889 + 2n\pi \text{ or } \frac{\pi}{2} + 2n\pi$$