Solve the following equation for x. Show all your work and circle your final answer(s).

$$\sin^2(4x - 3) = \sin(4x - 3)$$

$$\sin^2(4x - 3) - \sin(4x - 3) = 0$$
$$\sin(4x - 3)\,(\sin(4x - 3) - 1) = 0$$
$$\sin(4x - 3) = 0 \quad \text{OR} \quad \sin(4x - 3) = 1$$
$$4x - 3 = 0 + 2\pi k, \qquad 4x - 3 = \pi + 2\pi k, \qquad 4x - 3 = \frac{\pi}{2} + 2\pi k$$
$$x = \frac{3 + 2\pi k}{4}, \qquad x = \frac{\pi + 2\pi k + 3}{4}, \qquad x = \frac{\frac{\pi}{2} + 2\pi k + 3}{4}$$