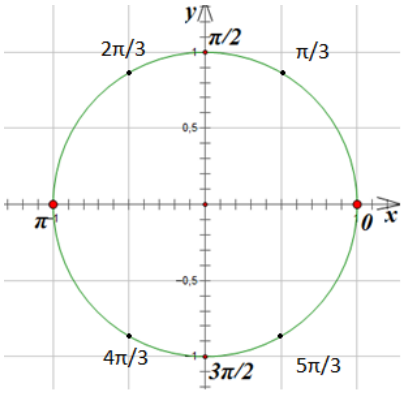
Find all of the exact solutions of the equation and then list those solutions which are in the interval $[0; 2\pi)$.

$$Sin^2(x) = \frac{3}{4}$$

1st step: we extract the square root of both sides of equation

$$Sin(x) = \pm\frac{\sqrt{3}}{2}$$

So, we got two cases:



1. $Sin(x) = \frac{\sqrt{3}}{2}$

Common solutions for first case: $x = \frac{\pi}{3} + 2\pi n,\ x = \frac{2\pi}{3} + 2\pi n$

2. $Sin(x) = -\frac{\sqrt{3}}{2}$

Common solutions for second case: $x = \frac{4\pi}{3} + 2\pi n,\ x = \frac{5\pi}{3} + 2\pi n$

Our interval is satisfied by the following roots: $x = \frac{\pi}{3};\ x = \frac{2\pi}{3};\ x = \frac{4\pi}{3};\ x = \frac{5\pi}{3}$

Answer: $x = \frac{\pi}{3};\ x = \frac{2\pi}{3};\ x = \frac{4\pi}{3};\ x = \frac{5\pi}{3}$