Solution:

$$(3n-1)^{\frac{2}{3}} = \frac{1}{4}$$

$$(3n-1)^{\frac{2}{3}} = \frac{1}{2}^2$$

taking the square root on both sides

$$(3n-1)^{\frac{1}{3}} = \frac{1}{2}$$

Raising both sides to the power 3

$$3n-1=\frac{1}{2}^3$$

$$3n = \frac{1}{8} + 1$$

$$3n = \frac{9}{8}$$

$$n = \frac{3}{8}$$

Answer: $n = \frac{3}{8}$