

$$3x^2 + 2x - 15 = 0$$

$$3(x^2 + \frac{2}{3}x - 5) = 0$$

$$x^2 + \frac{2}{3}x = 5$$

$$\frac{\frac{2}{3}}{2} = \frac{2}{3} \cdot \frac{1}{2} = \frac{1}{3} \rightarrow \left(\frac{1}{3}\right)^2$$

$$x^2 + \frac{2}{3}x + \left(\frac{1}{3}\right)^2 = 5 + \frac{1}{9}$$

$$x^2 + \frac{2}{3}x + \left(\frac{1}{3}\right)^2 = \frac{46}{9}$$

$$\left(x + \frac{1}{3}\right)^2 = \frac{46}{9}$$

$$x + \frac{1}{3} = \pm \sqrt{\frac{46}{9}} = \pm \frac{\sqrt{46}}{\sqrt{9}} = \pm \frac{\sqrt{46}}{3}$$

$$x = -\frac{1}{3} \pm \frac{\sqrt{46}}{3}$$

$$5 + \frac{1}{9} =$$

$$5 \cdot \frac{9}{9} + \frac{1}{9}$$

$$= \frac{45}{9} + \frac{1}{9}$$

$$= \frac{46}{9}$$