Solve the equation by completing the square.

2x2 + 8x - 1 = 6

 + 1 + 1

2x2 + 8x = 7

2 2 2

x2 + 4x + 4 = 3.5 + 4 4/2 = 22 = 4

$ \sqrt{(x+2)^{2}} = \sqrt{7.5}$ Cannot square root a decimal… $x+2 =\pm \sqrt{\frac{15}{2}} $ So we turn it into a fraction.

$x+ 2 = \pm \sqrt{\frac{15}{2}∙}\frac{2}{2}$ Multiply both numbers by 2…

 $x+2 = \pm \frac{\sqrt{30}}{\sqrt{4}}$ So we get a perfect square.

 $x+2 = \pm \frac{\sqrt{30}}{2}$ The 30 will not simplify.

 $x= \pm \frac{\sqrt{30}}{2}-2$ Subtract the 2 across.

Solve the equation by completing the square.

3x2 + 6x - 1 = 0

 +1 +1

3x2 + 6x = 1

3 3 3

$x^{2}+2x+1= \frac{1}{3}+1$ Leave 1/3 as a fraction

$ (x+1)^{2}= \frac{4}{3}$ When you add the 1, keep the fraction

$ \sqrt{(x+1)^{2} }= \pm \sqrt{\frac{4}{3}}$

$\sqrt{(x+1)^{2} }= \pm \sqrt{\frac{4}{3}∙}\frac{3}{3}$ Multiply both numbers by 3…

$ x+1 = \pm \frac{\sqrt{12}}{\sqrt{9}}$ To get a perfect square in the bottom

$ x+1 = \pm \frac{2\sqrt{3}}{3}$ Simplify the 12.

$ x = \pm \frac{2\sqrt{3}}{3}-1$ Subtract the 1.