Name : _____

Score : _____ Date : _____

MATH MONKS

Solving Quadratics by Completing the Square

Solved:

$x^2 + 8x + 7 = 0$

$\Rightarrow x^2 + 8x + 7 - 7 = 0 - 7$

$\Rightarrow x^2 + 8x = -7$

$\therefore \left(\frac{8}{2}\right)^2 = (4)^2 = 16$

$\therefore x^2 + 8x + 16 = -7 + 16$

$\Rightarrow x^2 + 8x + 16 = 9$

$\Rightarrow (x + 4)^2 = 9$

$\Rightarrow x + 4 = \pm 3$

$\Rightarrow x = (-7, -1)$

1 $3x^2 - 18x - 12 = 0$

---

2 $-2x^2 + 8x - 18 = 0$

3 $x^2 - 14x + 38 = 0$

Name : _____

Score : _____ Date : _____

MATH MONKS

Solving Quadratics by Completing the Square

Answers

Solved:

$x^2 + 8x + 7 = 0$

$\Rightarrow x^2 + 8x + 7 - 7 = 0 - 7$

$\Rightarrow x^2 + 8x = -7$

$\therefore \left(\frac{8}{2}\right)^2 = (4)^2 = 16$

$\therefore x^2 + 8x + 16 = -7 + 16$

$\Rightarrow x^2 + 8x + 16 = 9$

$\Rightarrow (x + 4)^2 = 9$

$\Rightarrow x + 4 = \pm 3$

$\Rightarrow x = (-7, -1)$

1 $3x^2 - 18x - 12 = 0$

$x = (3 \pm \sqrt{13})$

2 $-2x^2 + 8x - 18 = 0$

$x = (2 \pm i\sqrt{5})$

3 $x^2 - 14x + 38 = 0$

$x = (7 \pm \sqrt{11})$