

Solutions – Completing the Square (A)

Complete the square for $3x^2 - 6x - 6$

$$3(x + 1)^2 - 9$$

Complete the square for $x^2 + 2x + 5$

$$(x - 1)^2 + 4$$

Complete the square for $x^2 + 4x + 14$

$$(x - 2)^2 + 10$$

Complete the square for $6x^2 + 72x + 207$

$$6(x - 6)^2 - 9$$

Complete the square for $x^2 + 4x + 8$

$$(x - 2)^2 + 4$$

Complete the square for $2x^2 - 4x + 3$

$$2(x + 1)^2 + 1$$

Solutions – Completing the Square (B)

Complete the square for $x^2 - 2x - 4$

$$(x + 1)^2 - 5$$

Complete the square for $x^2 + 8x + 23$

$$(x + 4)^2 - 3$$

Complete the square for $3x^2 + 6x + 6$

$$3(x + 1)^2 + 3$$

Complete the square for $2x^2 + 8x + 3$

$$2(x + 2)^2 - 5$$

Complete the square for $5x^2 + 60x + 170$

$$5(x + 6)^2 - 10$$

Complete the square for $x^2 - 8x + 9$

$$(x - 4)^2 - 7$$

Solutions – Completing the Square (C)

Complete the square for $3x^2 - 6x - 2$

$$3(x + 1)^2 - 5$$

Complete the square for $x^2 - 8x + 12$

$$(x + 4)^2 - 4$$

Complete the square for $4x^2 - 8x + 9$

$$4(x + 1)^2 + 5$$

Complete the square for $2x^2 + 8x + 9$

$$2(x - 2)^2 + 1$$

Complete the square for $x^2 - 2x$

$$(x + 1)^2 - 1$$

Complete the square for $x^2 + 6x + 18$

$$(x - 3)^2 + 9$$

Solutions – Completing the Square (D)

Complete the square for $x^2 - 8x + 26$

$$(x + 4)^2 + 10$$

Complete the square for $3x^2 - 36x + 105$

$$3(x + 6)^2 - 3$$

Complete the square for $x^2 + 4x$

$$(x - 2)^2 - 4$$

Complete the square for $3x^2 - 12x + 8$

$$3(x + 2)^2 - 4$$

Complete the square for $3x^2 - 12x + 20$

$$3(x + 2)^2 + 8$$

Complete the square for $x^2 + 2x + 8$

$$(x - 1)^2 + 7$$

Solutions – Completing the Square (E)

Complete the square for $x^2 + 2x - 6$

$$(x - 1)^2 - 7$$

Complete the square for $5x^2 + 20x + 11$

$$5(x - 2)^2 - 9$$

Complete the square for $6x^2 - 48x + 92$

$$6(x + 4)^2 - 4$$

Complete the square for $5x^2 - 20x + 21$

$$5(x + 2)^2 + 1$$

Complete the square for $x^2 + 4x + 12$

$$(x - 2)^2 + 8$$

Complete the square for $x^2 - 12x + 34$

$$(x + 6)^2 - 2$$

Solutions – Completing the Square (F)

Complete the square for $x^2 + 2x$

$$(x - 1)^2 - 1$$

Complete the square for $6x^2 + 72x + 219$

$$6(x - 6)^2 + 3$$

Complete the square for $6x^2 + 36x + 52$

$$6(x - 3)^2 - 2$$

Complete the square for $x^2 + 2x + 7$

$$(x - 1)^2 + 6$$

Complete the square for $x^2 + 10x + 33$

$$(x - 5)^2 + 8$$

Complete the square for $4x^2 - 8x + 10$

$$4(x + 1)^2 + 6$$

Solutions – Completing the Square (G)

Complete the square for $5x^2 - 60x + 175$

$$5(x + 6)^2 - 5$$

Complete the square for $x^2 - 6x$

$$(x + 3)^2 - 9$$

Complete the square for $6x^2 + 36x + 51$

$$6(x - 3)^2 - 3$$

Complete the square for $3x^2 + 24x + 51$

$$3(x - 4)^2 + 3$$

Complete the square for $x^2 + 2x + 5$

$$(x - 1)^2 + 4$$

Complete the square for $x^2 + 6x$

$$(x - 3)^2 - 9$$

Solutions – Completing the Square (H)

Complete the square for $5x^2 - 20x + 18$

$$5(x + 2)^2 - 2$$

Complete the square for $x^2 + 4x + 7$

$$(x - 2)^2 + 3$$

Complete the square for $4x^2 + 48x + 145$

$$4(x - 6)^2 + 1$$

Complete the square for $x^2 + 12x + 39$

$$(x - 6)^2 + 3$$

Complete the square for $5x^2 + 30x + 39$

$$5(x - 3)^2 - 6$$

Complete the square for $x^2 - 2x - 1$

$$(x + 1)^2 - 2$$

Solutions – Completing the Square (I)

Complete the square for $6x^2 + 12x + 1$

$$6(x - 1)^2 - 5$$

Complete the square for $2x^2 - 12x + 23$

$$2(x + 3)^2 + 5$$

Complete the square for $3x^2 - 36x + 100$

$$3(x + 6)^2 - 8$$

Complete the square for $x^2 - 6x + 16$

$$(x + 3)^2 + 7$$

Complete the square for $x^2 - 6x + 18$

$$(x + 3)^2 + 9$$

Complete the square for $x^2 - 2x + 11$

$$(x + 1)^2 + 10$$

Solutions – Completing the Square (J)

Complete the square for $x^2 + 12x + 34$

$$(x - 6)^2 - 2$$

Complete the square for $x^2 - 2x + 5$

$$(x + 1)^2 + 4$$

Complete the square for $x^2 + 8x + 17$

$$(x - 4)^2 + 1$$

Complete the square for $5x^2 - 50x + 131$

$$5(x + 5)^2 + 6$$

Complete the square for $4x^2 - 8x + 8$

$$4(x + 1)^2 + 4$$

Complete the square for $3x^2 + 36x + 105$

$$3(x - 6)^2 - 3$$