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► Here's how

To solve for x in $2(x-3)^2-14=0$ we have to undo 4 operations: Subtract 3

Example: Find the solution(s) to:

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To solve for x in $2(x-3)^2-14=0$ we have to undo 4 operations: Subtract 3
Square it

Example: Find the solution(s) to:

$$2(x-3)^2-14=2x^2-12x+4=0$$

Like Ex 4 we need to write this in the form: $a(x-h)^2+k$

► Here's how

To solve for x in $2(x-3)^2-14=0$ we have to undo 4 operations: Subtract 3

Square it

Multiply by 2

Example: Find the solution(s) to:

$$2(x-3)^2-14=2x^2-12x+4=0$$

Like Ex 4 we need to write this in the form: $a(x-h)^2+k$

▶ Here's how

To solve for x in $2(x-3)^2-14=0$ we have to undo 4 operations:

Square it

Multiply by 2

Subtract 14

Example: Find the solution(s) to:

$$2(x-3)^2-14=2x^2-12x+4=0$$

Like Ex 4 we need to write this in the form: $a(x-h)^2+k$

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To solve for x in $2(x-3)^2-14=0$ we have to undo 4 operations:

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Example: Find the solution(s) to:

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Like Ex 4 we need to write this in the form: $a(x-h)^2+k$

Subtract 3 Square it

To solve for x in $2(x-3)^2-14=0$ we have to undo 4 operations:

Divide by 2

Multiply by 2

Subtract 14

Example: Find the solution(s) to:

$$2(x-3)^2-14=2x^2-12x+4=0$$

Like Ex 4 we need to write this in the form: $a(x-h)^2+k$

► Here's how

To solve for x in $2(x-3)^2-14=0$ we have to undo 4 operations:

Square it Divide by 2

Multiply by 2 Take the Square Root

Subtract 14

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To solve for x in $2(x-3)^2-14=0$ we have to undo 4 operations: Subtract 3

Square it Divide by 2

Multiply by 2 Take the Square Root

Subtract 14 Add 3

Example: Find the solution(s) to:

$$2(x-3)^2-14=2x^2-12x+4=0$$

Like Ex 4 we need to write this in the form: $a(x-h)^2+k$

To solve for x in $2(x-3)^2-14=0$ we have to undo 4 operations:

Subtract 3 Add 14
Square it Divide by 2

Multiply by 2 Take the Square Root

Subtract 14 Add 3

Like Frog and Toad we undo these operations in the opposite order.

Example: Find the solution(s) to:

$$2(x-3)^2-14=2x^2-12x+4=0$$

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$$2(x-3)^2-14+14=0+14$$

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To solve for x in $2(x-3)^2-14=0$ we have to undo 4 operations:

Square it Divide by 2

Multiply by 2 Take the Square Root

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Subtract 3 Add 14
Square it Divide by 2

Multiply by 2 Take the Square Root

Subtract 14 Add 3

Like Frog and Toad we undo these operations in the opposite order.

$$2(x-3)^2 = 2(x-3)^2 - 14 + 14 = 0 + 14 = 14$$

Example: Find the solution(s) to:

$$2(x-3)^2-14=2x^2-12x+4=0$$

Like Ex 4 we need to write this in the form:
$$a(x-h)^2+k$$

To solve for x in $2(x-3)^2-14=0$ we have to undo 4 operations:

Subtract 3 Add 14
Square it Divide by 2

Multiply by 2 Take the Square Root

Subtract 14 Add 3

Like Frog and Toad we undo these operations in the opposite order.

Adding 14 to both sides gives us:

$$2(x-3)^2 = 2(x-3)^2 = 14 + 14 = 0 + 14 = 14$$

Example: Find the solution(s) to:

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Subtract 3 Add 14

Square it Divide by 2

Multiply by 2 Take the Square Root

Subtract 14 Add 3

Like Frog and Toad we undo these operations in the opposite order.

Adding 14 to both sides gives us:

$$2(x-3)^2 = 2(x-3)^2 - 14 + 14 = 0 + 14 = 14$$

$$\frac{2(x-3)^2}{2} = \frac{14}{2}$$

Example: Find the solution(s) to:

$$2(x-3)^2-14=2x^2-12x+4=0$$

Like Ex 4 we need to write this in the form: $a(x-h)^2+k$

► Here's how

To solve for x in $2(x-3)^2-14=0$ we have to undo 4 operations:

Square it Divide by 2

Multiply by 2 Take the Square Root

Subtract 14 Add 3

Like Frog and Toad we undo these operations in the opposite order.

Adding 14 to both sides gives us:

$$2(x-3)^2 = 2(x-3)^2 - 14 + 14 = 0 + 14 = 14$$

$$\frac{2(x-3)^2}{2} = \frac{14}{2} = 7$$

Example: Find the solution(s) to:

$$2(x-3)^2-14=2x^2-12x+4=0$$

Like Ex 4 we need to write this in the form:
$$a(x-h)^2+k$$

To solve for x in $2(x-3)^2-14=0$ we have to undo 4 operations:

Subtract 3 Add 14

Square it Divide by 2
Multiply by 2
Take the Square Root

Subtract 14 Add 3

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Like Frog and Toad we undo these operations in the opposite order.

Adding 14 to both sides gives us:

$$2(x-3)^2 = 2(x-3)^2 - 14 + 14 = 0 + 14 = 14$$

$$(x-3)^2 = \frac{2(x-3)^2}{2} = \frac{14}{2} = 7$$

Example: Find the solution(s) to:

$$2(x-3)^2-14=2x^2-12x+4=0$$

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To solve for x in $2(x-3)^2-14=0$ we have to undo 4 operations:

Square it

Divide by 2

Multiply by 2

Take the Square Root

Subtract 14

Add 3

Like Frog and Toad we undo these operations in the opposite order.

Adding 14 to both sides gives us:

$$2(x-3)^2 = 2(x-3)^2 - 14 + 14 = 0 + 14 = 14$$

Now, we need to Divide by 2 to get:

$$(x-3)^2 = \frac{2(x-3)^2}{2} = \frac{14}{2} = 7$$

Example: Find the solution(s) to:

$$2(x-3)^2-14=2x^2-12x+4=0$$

Like Ex 4 we need to write this in the form: $a(x-h)^2+k$

► Here's how

To solve for x in $2(x-3)^2-14=0$ we have to undo 4 operations: Add 14

Square it

Divide by 2

Multiply by 2

Take the Square Root

Subtract 14

Add 3

Like Frog and Toad we undo these operations in the opposite order.

Adding 14 to both sides gives us:

$$2(x-3)^2 = 2(x-3)^2 - 14 + 14 = 0 + 14 = 14$$

Now, we need to Divide by 2 to get:

$$(x-3)^2 = \frac{2(x-3)^2}{2} = \frac{14}{2} = 7$$

$$\sqrt{(x-3)^2} = \sqrt{7}$$

Example: Find the solution(s) to:

$$2(x-3)^2-14=2x^2-12x+4=0$$

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To solve for x in $2(x-3)^2-14=0$ we have to undo 4 operations:

Square it Divide by 2

Multiply by 2 Take the Square Root

Subtract 14 Add 3

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To solve for x in $2(x-3)^2-14=0$ we have to undo 4 operations:

Square it

Divide by 2

Add 3

Multiply by 2

Take the Square Root

Subtract 14

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$$2(x-3)^2 = 2(x-3)^2 - 14 + 14 = 0 + 14 = 14$$

Now, we need to Divide by 2 to get:

$$(x-3)^2 = \frac{2(x-3)^2}{2} = \frac{14}{2} = 7$$

$$|x-3| = \sqrt{(x-3)^2} = \sqrt{7} = \sqrt{7}$$

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To solve for x in $2(x-3)^2-14=0$ we have to undo 4 operations:

Square it

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Multiply by 2

Take the Square Root

Subtract 14

Add 3

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$$2(x-3)^2 = 2(x-3)^2 - 14 + 14 = 0 + 14 = 14$$

Now, we need to Divide by 2 to get:

$$(x-3)^2 = \frac{2(x-3)^2}{2} = \frac{14}{2} = 7$$

Now, we can Take the Square Root of both sides to get:

$$|x-3| = \sqrt{(x-3)^2} = \sqrt{7} = \sqrt{7}$$

Since $|x-3| = \sqrt{7}$, we know that $x-3 = \pm \sqrt{7}$

Example: Find the solution(s) to:

$$2(x-3)^2-14=2x^2-12x+4=0$$

Like Ex 4 we need to write this in the form: $a(x-h)^2+k$

To solve for x in $2(x-3)^2-14=0$ we have to undo 4 operations:

Subtract 3 Divide by 2 Square it

Multiply by 2 Take the Square Root

Add 3

Subtract 14

• Like Frog and Toad we undo these operations in the opposite order. Adding 14 to both sides gives us:

$$2(x-3)^2 = 2(x-3)^2 - 14 + 14 = 0 + 14 = 14$$

Now, we need to Divide by 2 to get:

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Since $|x-3| = \sqrt{7}$, we know that $x-3 = \pm \sqrt{7}$

Adding 3 to both sides gives the solutions: $x = 3 \pm \sqrt{7}$

Example: Find the solution(s) to:

$$2(x-3)^2-14=2x^2-12x+4=0$$

Like Ex 4 we need to write this in the form: $a(x-h)^2+k$

To solve for x in $2(x-3)^2-14=0$ we have to undo 4 operations:

Subtract 3 2(x-3) - 14 = 0 we have to undo 4 operations.

Square it Divide by 2
Multiply by 2 Take the Square Root

Subtract 14 Add 3

Like Frog and Toad we undo these operations in the opposite order. Adding 14 to both sides gives us:

$$2(x-3)^2 = 2(x-3)^2 - 14 + 14 = 0 + 14 = 14$$

Now, we need to Divide by 2 to get:

$$(x-3)^2 = \frac{2(x-3)^2}{2} = \frac{14}{2} = 7$$

Now, we can Take the Square Root of both sides to get:

$$|x-3| = \sqrt{(x-3)^2} = \sqrt{7} = \sqrt{7}$$

Since
$$|x-3| = \sqrt{7}$$
, we know that $x-3 = \pm \sqrt{7}$

Adding 3 to both sides gives the solutions: $x = 3 \pm \sqrt{7} = 3 + \sqrt{7}, 3 - \sqrt{7}$