To put $2x^2 - 12x + 4$ in the form: $a(x - h)^2 + k$ we need to know the values of a, h, and k so that:

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So, how do we do that if these are written so differently?

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So, how do we do that if these are written so differently?
We can write the right-hand side like the left-hand side by distributing

To put $2x^2 - 12x + 4$ in the form: $a(x - h)^2 + k$ we need to know the values of a, h, and k so that:

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So, how do we do that if these are written so differently?

We can write the right-hand side like the left-hand side by

distributing

To put $2x^2 - 12x + 4$ in the form: $a(x - h)^2 + k$ we need to know the values of a, h, and k so that:

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So, how do we do that if these are written so differently? We can write the right-hand side like the left-hand side by • distributing After distributing on the right-hand side, we are left with:

To put $2x^2 - 12x + 4$ in the form: $a(x - h)^2 + k$ we need to know the values of a, h, and k so that:

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So, how do we do that if these are written so differently?

We can write the right-hand side like the left-hand side by <a>Observed distributing

After distributing on the right-hand side, we are left with:

$$2x^2 - 12x + 4 = ax^2 - 2ahx + ah^2 + k$$

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So, how do we do that if these are written so differently?

We can write the right-hand side like the left-hand side by distributing

After distributing on the right-hand side, we are left with:

$$2x^2 - 12x + 4 = ax^2 - 2ahx + ah^2 + k$$

We want these to be the same (equal) for every x.

To put $2x^2 - 12x + 4$ in the form: $a(x - h)^2 + k$ we need to know the values of a, h, and k so that:

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To put $2x^2 - 12x + 4$ in the form: $a(x - h)^2 + k$ we need to know the values of a, h, and k so that:

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-12 = -2ah$$

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After distributing on the right-hand side, we are left with:

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2 = a
-12 = -2ah = -2 · 2h = -4h→
$$^{-12}$$
 = $^{-4h}$
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To put $2x^2 - 12x + 4$ in the form: $a(x - h)^2 + k$ we need to know the values of a, h, and k so that:

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So, how do we do that if these are written so differently?

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$$2x^2-12x+4 = ax^2-2ahx + ah^2 + k$$

We want these to be the same (equal) for every x.

2 = a

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To put $2x^2 - 12x + 4$ in the form: $a(x - h)^2 + k$ we need to know the values of a, h, and k so that:

$$2x^{2} - 12x + 4 = a(x - h)^{2} + k$$

$$= a(x - h)(x - h) + k$$

$$= a(x^{2} - 2hx + h^{2}) + k$$

$$= ax^{2} - 2ahx + ah^{2} + k$$

So, how do we do that if these are written so differently?

We can write the right-hand side like the left-hand side by After distributing on the right-hand side, we are left with:

$$2x^2-12x+4 = ax^2-2ahx+ah^2+k$$

We want these to be the same (equal) for every x.

2 = a

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So, how do we do that if these are written so differently?

We can write the right-hand side like the left-hand side by distributing

After distributing on the right-hand side, we are left with:

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2 = a

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 $\rightarrow k = 4 - 18$

To put $2x^2 - 12x + 4$ in the form: $a(x - h)^2 + k$ we need to know the values of a, h, and k so that:

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So, how do we do that if these are written so differently?

We can write the right-hand side like the left-hand side by distributing After distributing on the right-hand side, we are left with:

buting on the right-hand side, we are left with $2x^2-12x+4=ax^2-2ahx+ah^2+k$

We want these to be the same (equal) for every x.

2 = a

$$-12 = -2ah = -2 \cdot 2h = -4h \rightarrow 3 = \frac{-12}{-4} = \frac{-4h}{-4} = h \rightarrow h = 3$$

4 = $a \cdot h^2 + k = 2 \cdot 3^2 + k = 2 \cdot 9 + k = 18 + k \rightarrow 4 = 18 + k$
 $\rightarrow k = 4 - 18 = -14$

To put $2x^2 - 12x + 4$ in the form: $a(x - h)^2 + k$ we need to know the values of a, h, and k so that:

$$2x^{2} - 12x + 4 = a(x - h)^{2} + k$$

$$= a(x - h)(x - h) + k$$

$$= a(x^{2} - 2hx + h^{2}) + k$$

$$= ax^{2} - 2ahx + ah^{2} + k$$

So, how do we do that if these are written so differently? We can write the right-hand side like the left-hand side by • distributing After distributing on the right-hand side, we are left with:

$$2x^2 - 12x + 4 = ax^2 - 2ahx + ah^2 + k$$

We want these to be the same (equal) for every x.

So, we need:

2 = a

$$-12 = -2ah = -2 \cdot 2h = -4h \rightarrow 3 = \frac{-12}{-4} = \frac{-4h}{-4} = h \rightarrow h = 3$$

4 = $a \cdot h^2 + k = 2 \cdot 3^2 + k = 2 \cdot 9 + k = 18 + k \rightarrow 4 = 18 + k$
 $\rightarrow k = 4 - 18 = -14$

Conclusion: We can re-write the polynomial in the form we want:

To put $2x^2 - 12x + 4$ in the form: $a(x - h)^2 + k$ we need to know the values of a, h, and k so that:

$$2x^{2} - 12x + 4 = a(x - h)^{2} + k$$

$$= a(x - h)(x - h) + k$$

$$= a(x^{2} - 2hx + h^{2}) + k$$

$$= ax^{2} - 2ahx + ah^{2} + k$$

So, how do we do that if these are written so differently?

We can write the right-hand side like the left-hand side by

distributing

After distributing on the right-hand side, we are left with:

$$2x^2 - 12x + 4 = ax^2 - 2ahx + ah^2 + k$$

We want these to be the same (equal) for every x.

So, we need: 2 = a

$$-12 = -2ah = -2 \cdot 2h = -4h \rightarrow 3 = \frac{-12}{-4} = \frac{-4h}{-4} = h \rightarrow h = 3$$

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$$\rightarrow$$
 k =4 - 18= -14

Conclusion: We can re-write the polynomial in the form we want:

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