Factoring Perfect Square Trinomials

Name _____

Date _____ Period _____

A perfect square trinomial is a trinomial in the form...

$x^2 + 2xy + y^2$ or $x^2 - 2xy + y^2$

Perfect square trinomials can be factored into a binomial squared

$x^2 + 2xy + y^2 = (x + y)^2$ $\quad$ $x^2 - 2xy + y^2 = (x - y)^2$

How to recognize a perfect square trinomial

$x^2 + 6x + 9$

we can ask, does $2 \cdot \sqrt{a} \cdot \sqrt{c} = |b|$?

How to recognize a perfect square trinomial

$$x^2 - 12x + 36$$

we can ask, does $2 \cdot \sqrt{a} \cdot \sqrt{c} = |b|$?

How to recognize a perfect square trinomial

$$4x^2 + 28x + 49$$

we can ask, does $2 \cdot \sqrt{a} \cdot \sqrt{c} = |b|$?

How to recognize a perfect square trinomial

$9x^2 - 12x + 4$

we can ask, does $2 \cdot \sqrt{a} \cdot \sqrt{c} = |b|$?

How to factor a perfect square trinomial

$x^2 + 6x + 9$

$a = 1$; $b = 6$; $c = 9$

Yes, $x^2 + 6x + 9$ is a perfect square trinomial

Draw parenthesis, put $\sqrt{a} \cdot x$ in front, then the sign of b, then the $\sqrt{c}$.

How to factor a perfect square trinomial

$x^2 - 12x + 36$

$a = 1$; $b = -12$; $c = 36$

Yes, $x^2 - 12x + 36$ is a perfect square trinomial

Draw parenthesis, put $\sqrt{a} \cdot x$ in front, then the sign of b, then the $\sqrt{c}$.

How to factor a perfect square trinomial

$4x^2 + 28x + 49$

$a = 4$; $b = 28$; $c = 49$

Yes, $4x^2 + 28x + 49$ is a perfect square trinomial

Draw parenthesis, put $\sqrt{a} \cdot x$ in front, then the sign of b, then the $\sqrt{c}$.

How to factor a perfect square trinomial

$9x^2 - 12x + 4$

$a = 9$; $b = -12$; $c = 4$

Yes, $9x^2 - 12x + 4$ is a perfect square trinomial

Draw parenthesis, put $\sqrt{a} \cdot x$ in front, then the sign of b, then the $\sqrt{c}$.

How to factor a perfect square trinomial

$25x^2 - 30x + 9$

$a = 25$; $b = -30$; $c = 9$

Yes, $25x^2 - 30x + 9$ is a perfect square trinomial

Draw parenthesis, put $\sqrt{a} \cdot x$ in front, then the sign of b, then the $\sqrt{c}$.