

Factor each trinomial

$$6d^2 + 17d + 7$$

42

3d 2d 1

$6d^2$	$3d$
$14d$	$7$

$(3d+7)(2d+1)$

$$20b^2 + 21b - 5$$

$(5b+5)(5b-1)$

$20b^2$	$-4b$
$25b$	$-5$

$$64h^2 - 28h - 15$$

$(8h-3)$

$(8h+5)$

$64h^2$	$20h$
$-18h$	$-15$

$$6x^2 + 91x - 150$$

$(3x+50)(2x-3)$

$6x^2$	$100x$
$-9x$	$-150$

$$9k^2 - 18k + 8$$

$(3k-2)(3k-4)$

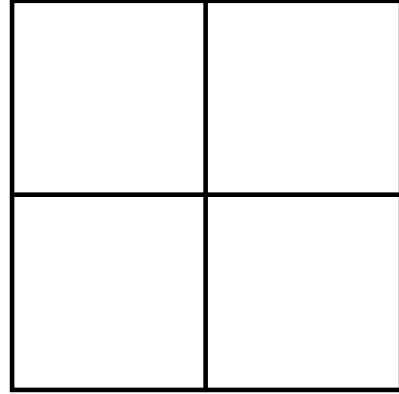
$9k^2$	$-6k$
$-12k$	$8$

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$$6d^2 + 17d + 7$$

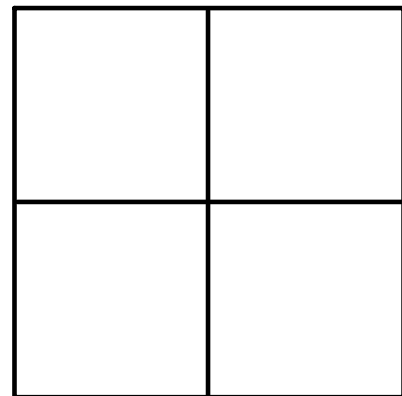

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$$20b^2 + 21b - 5$$



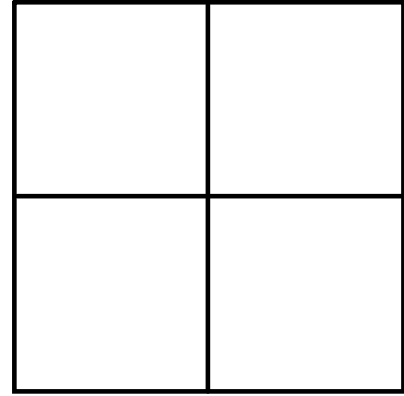
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$$64h^2 - 28h - 15$$



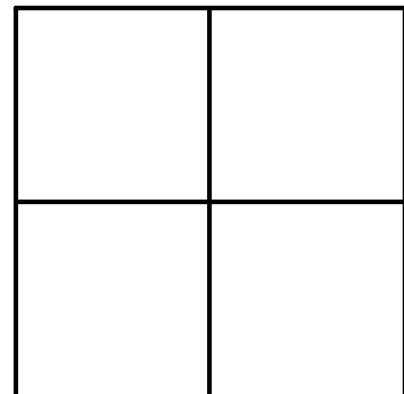
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$$6x^2 + 91x - 150$$



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$$9k^2 - 18k + 8$$



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**$36x^2 - 10x + 14$**

$2(18x^2 - 5x + 7)$

	$2x$	$1$
$9x$	$18x^2$	$9x$
$-7$	$-14x$	$7$

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**Perfect-Square Trinomials**

PERFECT-SQUARE TRINOMIAL	EXAMPLES
$a^2 + 2ab + b^2 = (a + b)(a + b) = (a + b)^2$	$x^2 + 6x + 9 = (x + 3)(x + 3) = (x + 3)^2$
$a^2 - 2ab + b^2 = (a - b)(a - b) = (a - b)^2$	$x^2 - 2x + 1 = (x - 1)(x - 1) = (x - 1)^2$

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$2(3)8 = 48$

$9x^2 - 15x + 64$

576

$9x^2$	
	64

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$9(5)(2)$   
 $2(10)$

$81x^2 + 90x + 25$

$2025x^2$

	$9x$	$5$
$9x$	$81x^2$	$45x$
$5$	$45x$	$25$

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$3(2)(2)$

$\sqrt{9x^2 - 6x + 4}$

$36x^2$

12	3
9	4
18	2
6	6


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A square piece of cloth must be cut to make a tablecloth. The area needed is  $(16x^2 - 24x + 9)$  in<sup>2</sup>. The dimensions of the cloth are of the form  $cx - d$ , where  $c$  and  $d$  are whole numbers. Find an expression for the perimeter of the cloth. Find the perimeter when  $x = 11$  inches.

$4(3)$   
 $12(2)$

$(4x - 3)$

$P = 4(4x - 3)$

$4(44 - 3) = 4(41) = 164 = P$

$16x^2$	
	$9$

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**Difference of Two Squares**

**DIFFERENCE OF TWO SQUARES**

$$a^2 - b^2 = (a + b)(a - b)$$

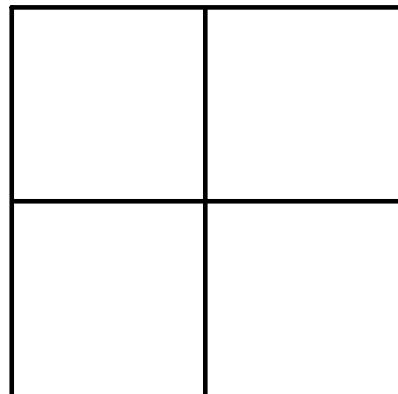
**EXAMPLE**

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

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$$3p^2 - 9q^4$$

$$3(p^2 - 3q^4)$$



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**$100x^2 - 4y^2$**  →  $(10x+2)(10x-2)$

$4(25x^2 - y^2)$

$25x^2$   $y^2$

$10xy$   $2xy$

$5x$   $5x$   $5x$   $5x$

$4(5x+y)(5x-y)$

	$5x$	$y$
$5x$	$25x^2$	$5xy$
$-5x$	$-5xy$	$y^2$

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**$1 - 4x^2$**

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

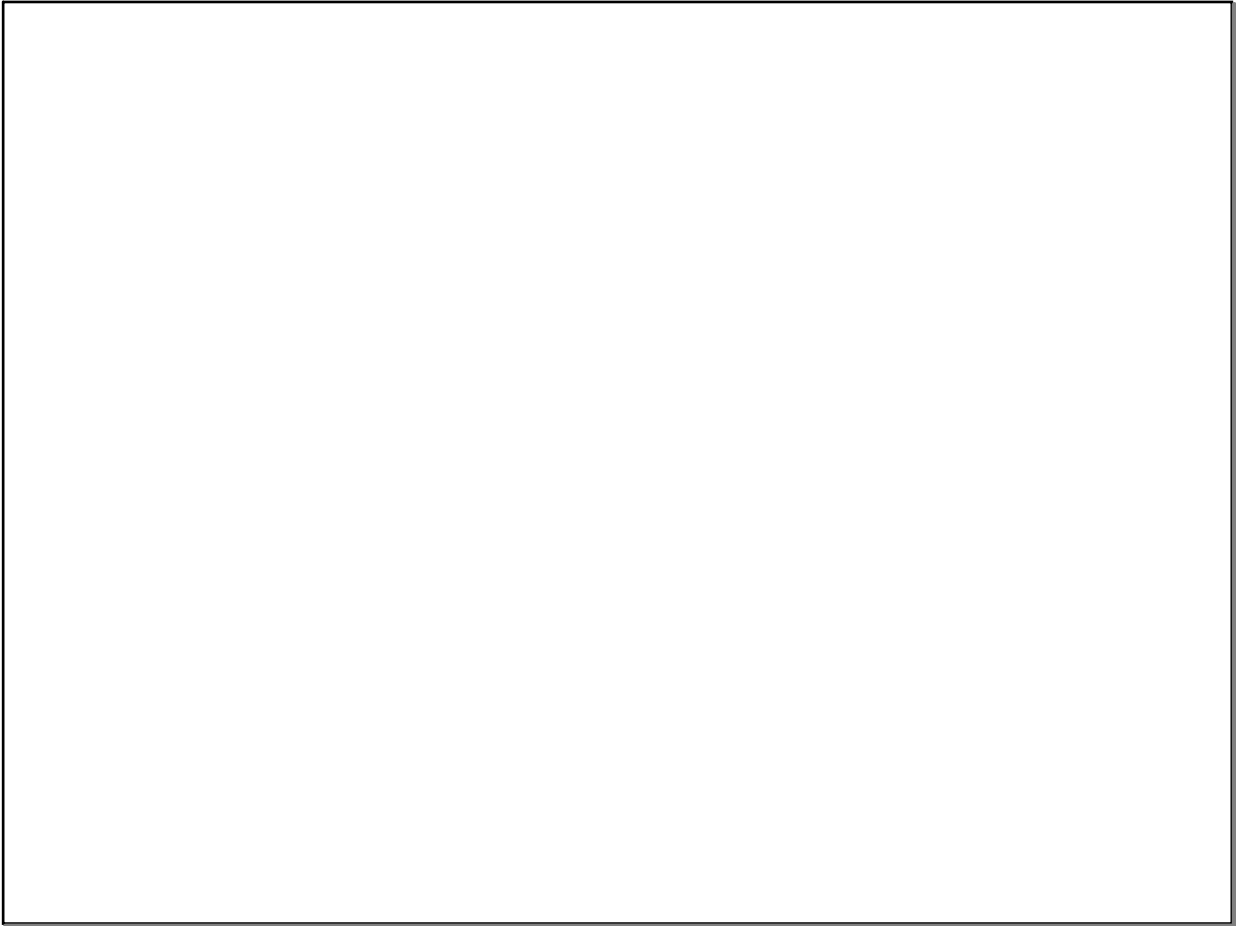
$-4x^2 + 1$

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

$2$   $2$


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