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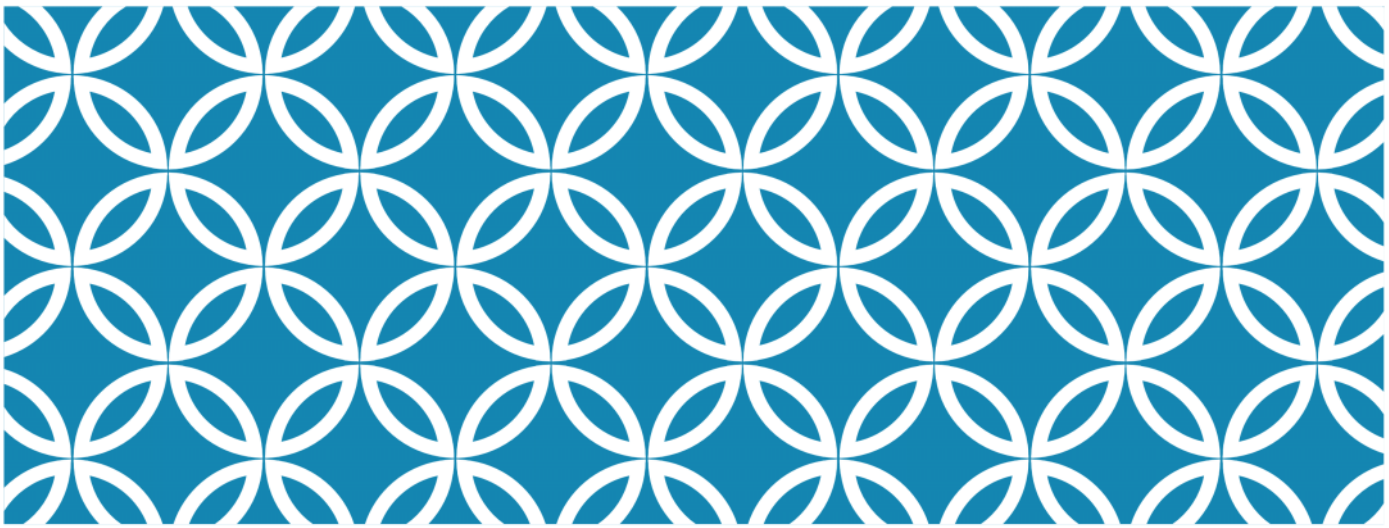

CONVERTING A QUADRATIC INTO (MX-P)^2 =Q

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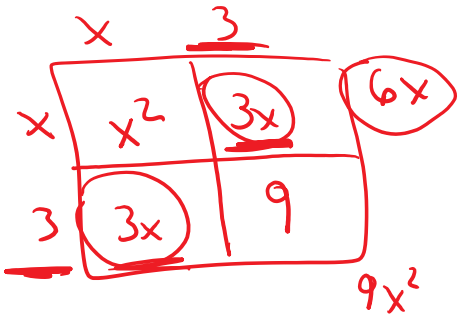
A PERFECT SQUARE TRINOMIAL

A Prefect Square Trinomial is a quadratic that has two identical factors.

$y = x^2 + 6x + 9 \rightarrow (x + 3)(x + 3) \rightarrow (x + 3)^2$



Problem 1:

$\sqrt{x^2} = x$

Is the quadratic a perfect square trinomial? If so find the factors.

$y = x^2 - 8x + 16$ $= (x-4)^2$

$y = 4x^2 + 12x + 9$ $(2x+3)^2$

	x	-4	
x	x^2	$-4x$	$-8x$
-4	$-4x$	16	

	$2x$	3	
$2x$	$4x^2$	$6x$	$12x$
3	$6x$	9	

Problem 1A:

Is the quadratic a perfect square trinomial? If so find the factors.

$y = x^2 + 12x + 36$

	x	6	
x	x^2	$6x$	$12x$
6	$6x$	36	

$(x+6)^2$

$y = 16x^2 - 24x + 9$

	$4x$	-3	
$4x$	$16x^2$	$-12x$	$-24x$
-3	$-12x$	9	

$(4x-3)^2$

Problem 1B:

Is the quadratic a perfect square trinomial? If so find the factors.

$y = x^2 + 5x + 4$ $\qquad$ $y = 9x^2 - 12x + 4$

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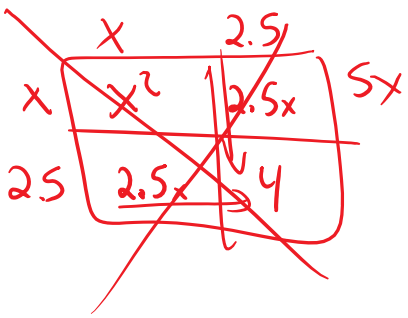
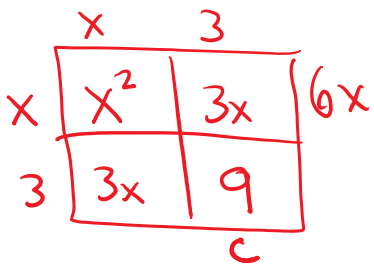
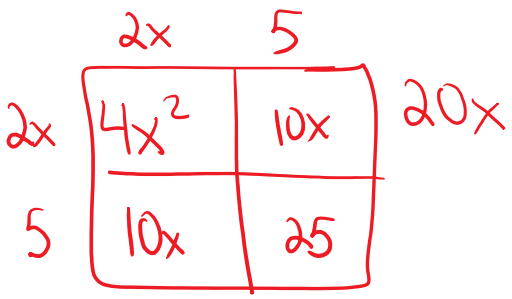


PROBLEM 2:

Complete the perfect square trinomial.

$x^2 + 6x +$ 9 $\qquad 4x^2 + 20x +$ 25

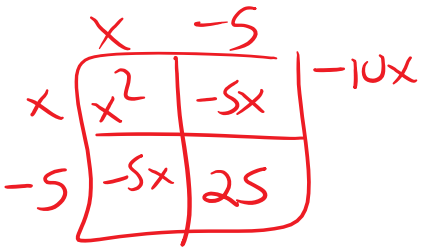


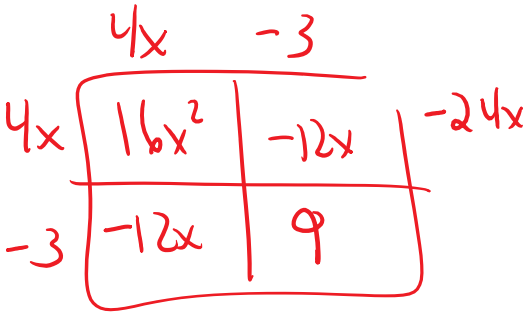


PROBLEM 2A:

Complete the perfect square trinomial.

$x^2 - 10x +$ 25 $\qquad 16x^2 - 24x +$ 9





PROBLEM 2B:

Complete the perfect square trinomial.

$x^2 + 5x + \square$ $4x^2 + 12x + \square$

PROBLEM 3:

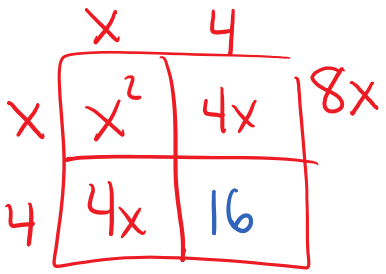
Rewrite the quadratic in the form $(mx - p)^2 = q$.

$y = x^2 + 8x + 12$

$x^2 + 8x + 12 = 0$

$x^2 + 8x + 16 = -12 + 16$

$(x + 4)^2 = 4$



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PROBLEM 3A:

Rewrite the quadratic in the form $(mx - p)^2 = q$.

$y = x^2 - 4x - 77$

$x^2 - 4x - 77 = 0$

$x^2 - 4x + 4 = 77 + 4$

$(x - 2)^2 = 81$

	x	-2	
x	x^2	$-2x$	$-4x$
-2	$-2x$	4	

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PROBLEM 3B:

Rewrite the quadratic in the form $(mx - p)^2 = q$.

$y = x^2 - 8x - 9$

$x^2 - 8x - 9 = 0$

$x^2 - 8x + 16 = 9 + 16$

$\sqrt{(x-4)^2} = \sqrt{25}$

$x - 4 = \pm 5$

$+4 \quad +4$

$x = 4 \pm 5$

$4 + 5 = 9$

$4 - 5 = -1$

x-ints

	x	-4	
x	x^2	$-4x$	$-8x$
-4	$-4x$	16	

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PROBLEM 3C:

Rewrite the quadratic in the form $(mx - p)^2 = q$.

$y = x^2 + 6x - 16$