Find two numbers that…

Multiply to 6

AND

Add to 5

Find two numbers that…

Multiply to 18

AND

Add to -9

Find two numbers that…

Multiply to -30

AND

Add to -13

Find two numbers that…

Multiply to 27

AND

Add to 12

Find two numbers that...

Multiply to -10

AND

Add to -9

Find two numbers that…

Multiply to 24

AND

Add to -10

Find two numbers that...

Multiply to 100

AND

Add to 20

Find two numbers that…

Multiply to 169

AND

Add to 26

Find two numbers that...

Multiply to -29

AND

Add to -28

$$x^2 + 6x + 9$$

$$(x + 3)^2$$

$$x^2 - 8x + 15$$

$$(x - 5)(x - 3)$$

Add: -8

Mult: 15

$$x^2 - 13x + 40$$
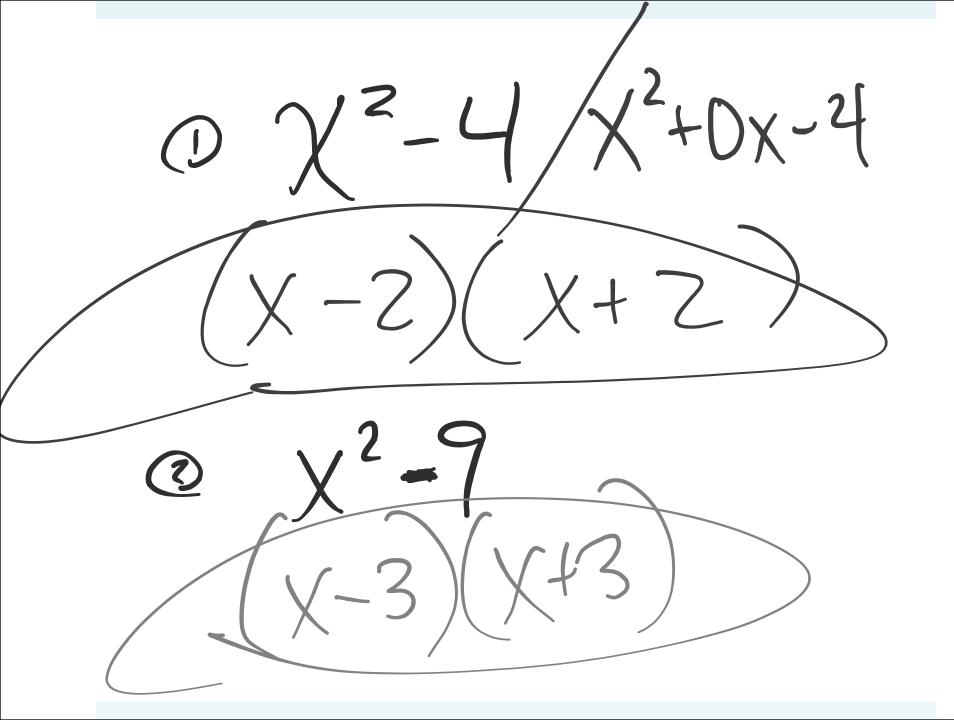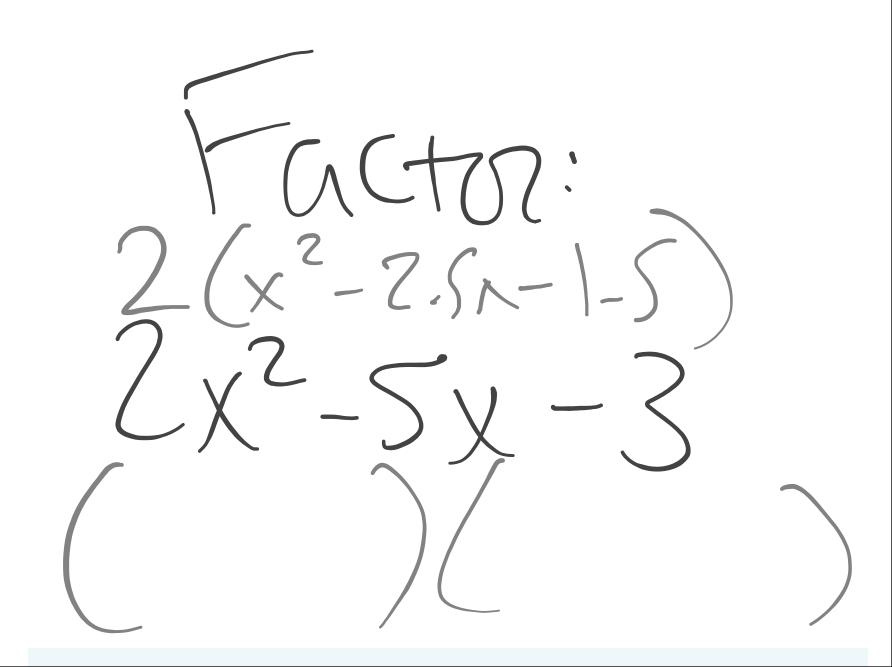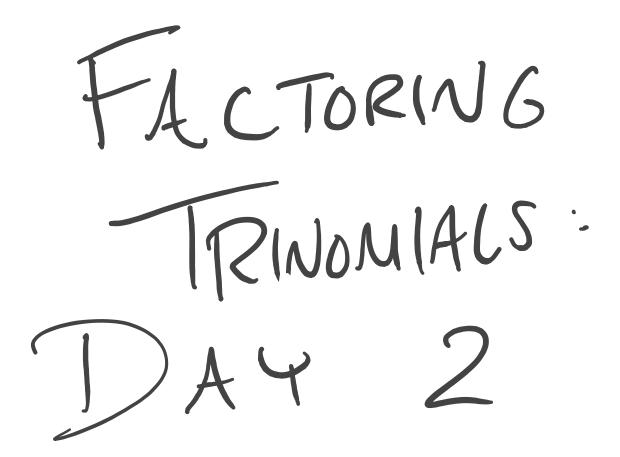
$$(x - 8)(x - 5)$$

$$x^2 + 7x - 18$$

$$(x+9)(x-2)$$

① $x^2 - 12x + 20$ $(x - 10)(x - 2)$

② $x^2 - 12x + 32$ $(x - 8)(x - 4)$

③ $x^2 - 9x + 20$ $(x - 5)(x - 4)$

① $x^2 - 4$ $x^2 + 0x - 4$

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

② $x^2 - 9$

$(x - 3)(x + 3)$

Factor:

$2(x^2 - 2.5x - 1.5)$

$2x^2 - 5x - 3$

$(\qquad)(\qquad)$

FACTORING

TRINOMIALS:

DAY 2

Factor by Grouping

$$5r - 10 + 2r - r^2$$

$$5(r-2) + r(r-2)$$

$$(5-r)(r-2)$$

$$10x^3 + 4x - 25x^2 - 10$$

$$\rightarrow 10x^3 - 25x^2 + 4x - 10$$

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

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

Factor the Trinomials
where $a = 1$

$$1x^2 \overset{A}{-4}x \overset{M}{-21}$$

$$(x-7)(x+3)$$

$$x^2 - 8x + 15$$

$$(x - 3)(x - 5)$$

$$x^2 + 0x - 16$$

① $x^2 - 16$

$(x - 4)(x + 4)$

② $x^2 - 25$

$(x - 5)(x + 5)$

difference of squares

① $x^2 + 6x + 9$

$(x+3)^2$

② $x^2 + 4x + 4$

$(x+2)^2$

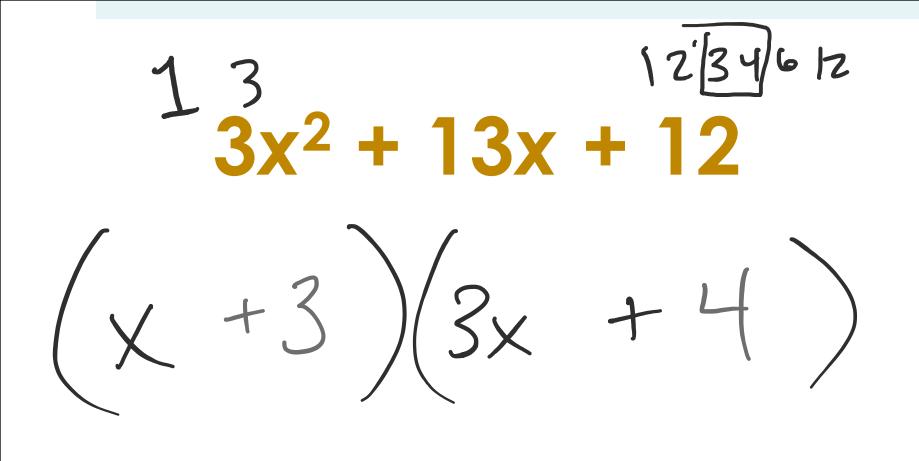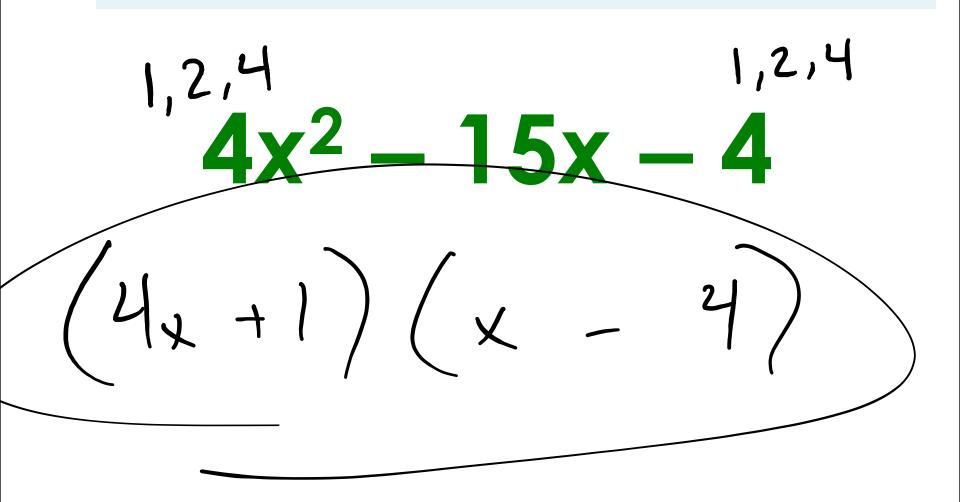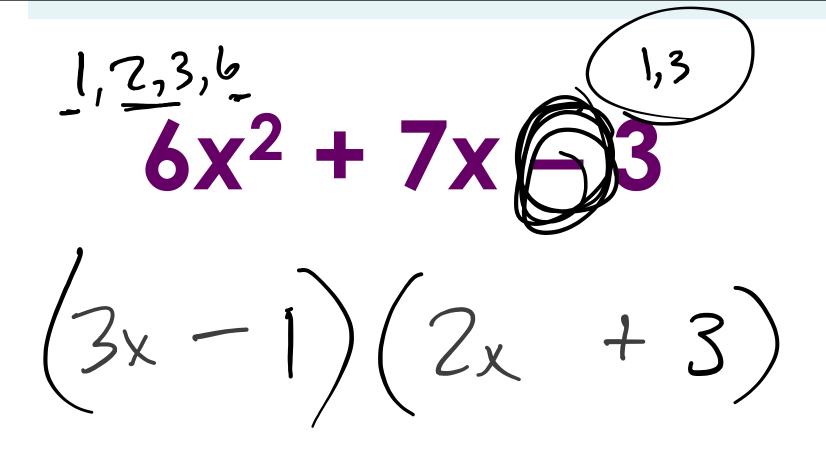} perfect square trinomials

Factor trinomials
of the form
$ax^2 + bx + c$ where
$a \neq 1$

USING "professional" guess
+ check

$$6x^2 + 17x + 5$$

1) Find Factors of 6 + 5
2) What should the signs be?
3) Guess + Check

$$(2x + 5)(3x + 1)$$

$$1 \quad 3$$

$$\overline{12 \mid 3 \; 4 \mid 6 \; 12}$$

$$3x^2 + 13x + 12$$

$$(x + 3)(3x + 4)$$

1,2,4   1,2,4

$$4x^2 - 15x - 4$$

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

$1, 2, 3, 6$

$1, 3$

$$6x^2 + 7x - 3$$

$$(3x - 1)(2x + 3)$$

$$2x^2 \underline{+} 15x \underline{+} 25$$

$2 + 1$

$5 + 5$
$1 + 25$

$$(2x + 5)(x + 5)$$

$1, 3, 9$ $\quad 9t^2 - 6t + 1$ $\quad 1$

$(3t - 1)(3t - 1)$

$(3t - 1)^2$

$$6x^2 + 17x - 14$$

1, $\boxed{2, 3}$, 6   1, $\boxed{2, 7}$, 14

$$(2x + 7)(3x - 2)$$

① $7x^2 - 19x - 6$ $(x-3)(7x+2)$

② $2x^2 - x - 1$ $(2x+1)(x-1)$

③ $2x^2 + 9x + 7$ $(2x+7)(x+1)$

Factoring trinomials of the form $ax^2 + bx + c$ where $a \neq 1$

NOT USING GUESS & Check
(we will do on Monday)