

Factoring

11/18/14

NOTES

P.1

① $(x+3)(x+5)$

$x \cdot x \quad x \cdot 5 \quad 3 \cdot x \quad 3 \cdot 5$

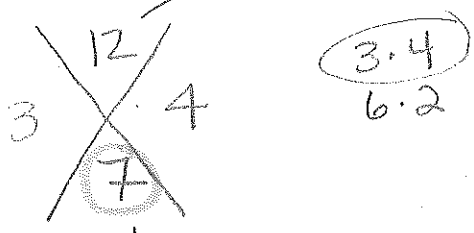
$x^2 + 5x + 3x + 15$

$x^2 + 8x + 15$

Examples

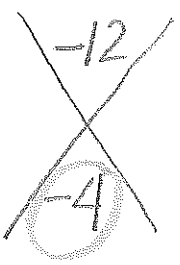
② $x^2 + 3x + 2$
 $(x+1)(x+2)$

③ $x^2 + 7x + 12$



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

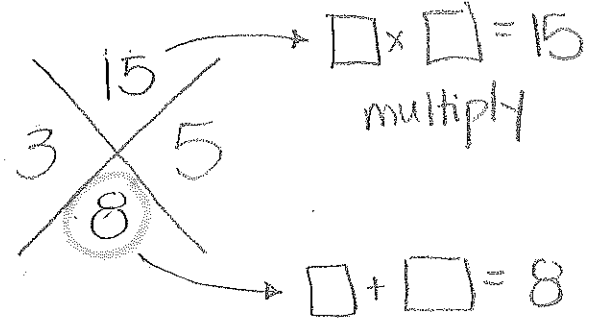
④ $x^2 - 4x - 12$



$(x-6)(x+2)$

① $x^2 + 8x + 15$

M.1



Multiply 15

$3 \cdot 5 = 15$

~~$-3 \cdot -5 = 15$~~

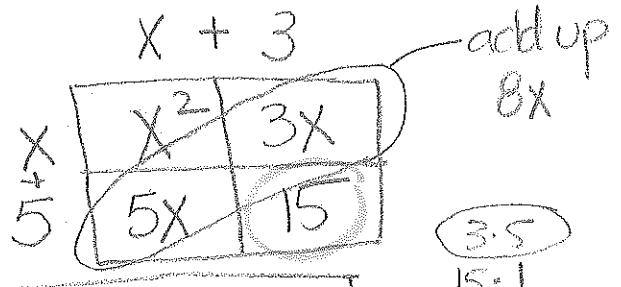
~~$15 \cdot 1 = 15$~~

~~$-15 \cdot -1 = 15$~~

$(x+3)(x+5)$

Method 2

$x^2 + 8x + 15$



$(x+3)(x+5)$

Method 3

$x^2 + 8x + 15$

Factors of 15	Sum
$3 \cdot 5$	8
$-3 \cdot -5$	-8
$15 \cdot 1$	16
$-15 \cdot -1$	-16

$$\textcircled{5} \quad x^2 - 2x - 3 \\ (x-3)(x+1)$$

$$\textcircled{6} \quad x^2 - 9x + 20 \\ (x-5)(x-4)$$

$$\textcircled{7} \quad x^2 - 11x + 28 \\ (x-4)(x-7)$$

$$\textcircled{8} \quad y^2 + 8y \\ y \cdot y + 8y \\ \boxed{y(y+8)}$$

$$\textcircled{9} \quad y^2 - 9y \\ \boxed{y(y-9)}$$

$$\textcircled{10} \quad 3y^2 - 9y \\ 3 \cdot y \cdot y - 3 \cdot 3y \\ \boxed{3y(y-3)}$$

$$\textcircled{11} \quad 16y^2 + 8y$$

$$\boxed{8y(2y+1)}$$

$$\textcircled{1} \quad x^2 - 3x + 11 \quad \text{Not possible}$$

$$\textcircled{2} \quad 4x^2 + 4x + 1 \quad (2x+1)(2x+1)$$

$$3y^2 + 24y - 60 \\ 3(y-2)(y+10)$$