Multiplying Binomials

① $(x+1)(x+1)$

F O I L

$x \cdot x \quad x \cdot 1 \quad 1 \cdot x \quad 1 \cdot 1$

$x^2 + x + x + 1$

$\boxed{x^2 + 2x + 1}$

① $(x+1)(x+1)$

Double Distribution

$x \cdot x \quad x \cdot 1 \quad 1 \cdot x \quad 1 \cdot 1$

$x^2 + x + x + 1$

$\boxed{x^2 + 2x + 1}$

② $(2x+1)(x+2)$

$2x \cdot x \quad 2x \cdot 2 \quad 1 \cdot x \quad 1 \cdot 2$

$2x^2 + 4x + x + 2$

$2x^2 + 5x + 2$

$\boxed{2x^2 + 5x + 2}$

③ $(2y+1)(2y+1)$

$2y \cdot 2y \quad 2y \cdot 1 \quad 1 \cdot 2y \quad 1 \cdot 1$

$4y^2 + 2y + 2y + 1$

$\boxed{4y^2 + 4y + 1}$

④ $(x-5)(x-4)$

$x \cdot x \quad x \cdot -4 \quad -5 \cdot x \quad -5 \cdot -4$

$x^2 - 4x - 5x + 20$

$\boxed{x^2 - 9x + 20}$

$x^2 + (-9x) + 20$

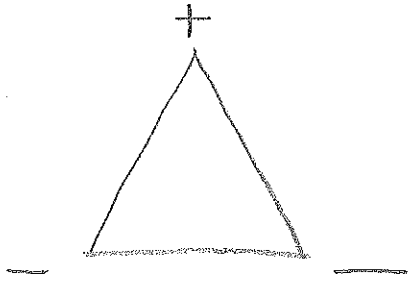
⑤ $(2x+1)(x-3)$

$2x \cdot x \quad 2x \cdot -3 \quad 1 \cdot x \quad 1 \cdot -3$

$2x^2 - 6x + 1x - 3$

$\boxed{2x^2 - 5x - 3}$

Multiply / Divide +/− #s



$6 \cdot (-1) = -6$

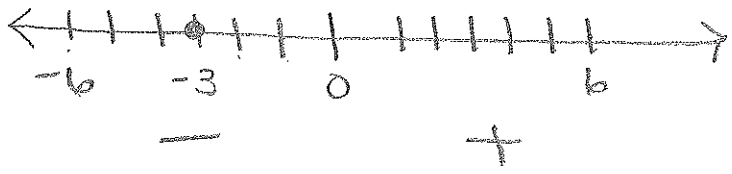
$-6 \cdot (-1) = 6$

row row your boat

Add / Subtract +/− #s

$+6 - 1 = 5$ Different Subtract

$-6 + 3 = -3$ keep big #



⑥ $(3x-y)(x+2y)$

$3x \cdot x \quad 3x \cdot 2y \quad -1y \cdot 1x \quad -1y \cdot 2y$

$3x^2 + 6xy - 1xy - 2y^2$

$3x^2 + 5xy - 2y^2$

⑦ $(2x+1)(2x-y)$

$2x \cdot 2x \quad 2x \cdot -y \quad 1y \cdot 2x \quad 1y \cdot -y$

$4x^2 - 2xy + 2xy - y^2$

$\boxed{4x^2 - y^2}$

④ $(y+6)(3y+2)$

$3y^2 + 20y + 12$

④ $(x-5)(x-4)$

④a

$x^2 - 9x + 20$

$x^2 + (-9x) + 20$

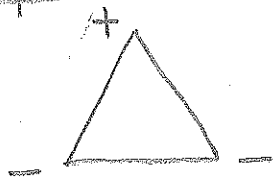
⑤ $(3x-y)(x+2y)$

$3x \cdot x \quad 3x \cdot 2y \quad (-y) \cdot x \quad (-y) \cdot 2y$

$3x^2 + 6xy - 1yx - 2y^2$

$3x^2 + 5xy - 2y^2$

Dividing
Multiply Positive/Negative #s



$+2 \cdot -2$

⑥ $(x-6)(x+2)$

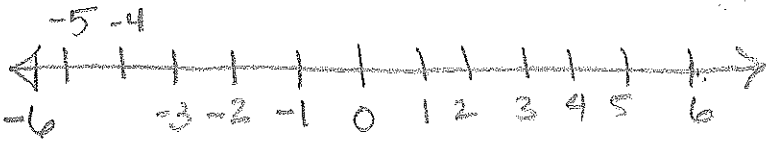
$x^2 + 2x - 6x - 12$

$x^2 - 4x - 12$

Add/Subtract Pos./Neg #s

$+6 - 1 = 5$

$-6 + 1 = -5$



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