F-word: Factoring Continued!

① $x^2 + 7x + 12$

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

12

$1 \cdot 12$

$3 \cdot 4$

$2 \cdot 6$

② $x^2 + 2x + 12$

CAN NOT FACTOR!

"PRIME"

③ $x^2 - 9$

$x^2 + 0x - 9$

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

-9

$-3 \cdot 3$

④ $x^2 - 64$

$x^2 + 0x - 64$

$(x+8)(x-8)$

-64

$8 \cdot -8$

⑤ $x^2 - 100$

$(x+10)(x-10)$

⑥ $x^2 + 6x + 0$

$x(x+6)$

$(x+0)(x+6)$

0

$0 \cdot 6$

⑦ $x^2 - 12x$

$(x+0)(x-12)$

$x(x-12)$

0

$0 \cdot -12$

① ÷ $6x^2 - 13x + 2$

$6 \cdot 2 = 12$

$-12 \cdot -1$

$(6x - 12)(6x - 1)$

$\frac{}{6}$

$(x - 2)(6x - 1)$

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② ÷ $2x^2 + 11x + 14$

$a \cdot c = 28$

$1 \cdot 28$

$2 \cdot 14$

$7 \cdot 4$

$(2x + 7)(2x + 4)$

$\frac{}{2}$

$(2x + 7)(x + 2)$

③ ÷ $4x^2 + 17x - 15$

$a \cdot c = -60$

$1 \cdot -60$

$2 \cdot -30$

$3 \cdot -20$ → $-3 \cdot 20$

$4 \cdot -15$

~~$5 \cdot 12$~~

$6 \cdot -10$

$(4x - 3)(4x + 20)$

$\frac{}{4}$

$(4x - 3)(x + 5)$

Warm-Up 5/15

① $3x^2+9x+0$ ÷3

$(3x+0)(3x+9)$

$(3x)(x+3)$

$3 \cdot 0 = 0$

$0 \cdot 9$

② $2x^2-5x+3$ ÷2

$(2x-2)(2x-3)$

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

$2 \cdot 3 = 6$

$-6 \cdot -1$

$-2 \cdot -3$

③ x^2-25

$x^2+0x-25$ $\quad -25$

$(x-5)(x+5)$ $\quad -5 \cdot 5$

④ x^2-2x-8 $\quad -8$

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

Example 100

⑩ $3x^2+15x+18$

$3(x^2+5x+6)$ $\quad 6$ $\quad 3 \cdot 2$

$3(x+3)(x+2)$

$2x^2+4x-6$

$2(x^2+2x-3)$ $\quad -3$ $\quad -1 \quad 3$

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

$2x^2-14x+20$ $\quad 10$ $\quad -2 \quad -5$

$2(x^2-7x+10)$

$2(x-2)(x-5)$

$2x^2-18x$ GCF

$2x(x-9)$

$3x^2-12$

$3(x^2-4)$

$3(x^2+0x-4)$ $\quad -4$ $\quad -2 \cdot 2$

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