

Starter:

1. $(3x^2 + 4x - 2) \oplus (2x^2 - 3x^3 + 7)$

$$\boxed{-3x^3 + 5x^2 + 4x + 5}$$

2. $(x^2 + 2)(x^2 - 3x + 5)$

$$x^4 - 3x^3 + \frac{5x^2}{2x^2} - 6x + 10$$

~~3. $(x - 6)(x - 7)$~~

$$\boxed{x^4 - 3x^3 + 7x^2 - 6x + 10}$$

$$\text{Square Root: } f(x) = \sqrt{x}$$

$$\text{Cube Root: } f(x) = \sqrt[3]{x}$$

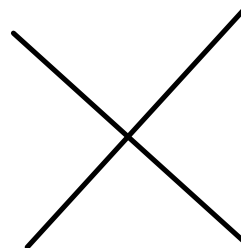
$$\text{Piece-wise: } f(x) = \begin{cases} x + 2 & \text{if } x < -2 \\ 1 & \text{if } -2 \leq x \leq 0 \\ -2x + 5 & \text{if } x > 0 \end{cases}$$

$$\text{Step: } f(x) = \text{int } x$$

Remember: $(x - 2)(x + 5)$

Undo it.....

$$\begin{array}{r}
 x^2 + 5x \\
 - 2x - 10 \\
 \hline
 x^2 + 3x - 10
 \end{array}$$



1. $x^2 + 16x + 60$

$(x+6)(x+10)$

~~$\begin{matrix} & 60 & \\ 6 & & 10 \\ & 16 & \end{matrix}$~~

$$3n^2 - 42n$$

$$(n+6)(n-7)$$

~~$$-42$$

$$\begin{matrix} 6 & -7 \\ -1 \end{matrix}$$~~

7. $5b^2 - 42b - 27$

$(5b - 45)(5b + 3)$
 ~~$(5b - 45)(5b + 3)$~~
 $(b - 9)(5b + 3)$

~~$(-45)(3)$
 -135
 -42~~

12. $18x^2 - 15x - 150$

$3(6x^2 - 5x - 50)$

$3(6x + 15)(x - 20)$

$3(2x + 5)(3x - 10)$

~~$\begin{matrix} -300 \\ 15 & -20 \\ -5 \end{matrix}$~~

13. $20x^3 + 34x^2 + 14x$

$$2x(10x^2 + 17x + 7)$$

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

$$2x(x + 1)(10x + 7)$$

