

$$\begin{array}{r} x+4 \\ \cdot 2x+1 = \\ \hline \end{array}$$

$$1x + 4$$

$$2x^2 + 8x$$

$$\hline 2x^2 + 9x + 4$$

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

$$\begin{array}{r} 2x^2+4x-3 \\ \cdot 3x-2 \\ \hline -4x^2-8x+6 \\ 6x^3+12x^2-9x \\ \hline 6x^3+8x^2-17x+6 \end{array}$$

$$\begin{array}{r} 3x^2 + 5x - 4 \quad + \\ - 2x^2 - 5x + 7 \quad - \\ \hline x^2 + 0x + 3 \end{array}$$

$$A(x) = 5x^3 - 3x^2 + 4x - 7$$

$$B(x) = 3x^2 - 5x - 8$$

A - B

$$\begin{array}{r} 5x^3 - 3x^2 + 4x - 7 + \\ -3x^2 + 5x + 8 = \\ \hline 5x^3 - 6x^2 + 9x + 1 \end{array}$$

$$(2x+3)^2 = \cancel{4x^2 + 9}$$

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

$$\begin{array}{r} 2x+3 \\ 2x+3 \\ \hline 6x+9 \\ 4x^2+6x \\ \hline 4x^2+12x+9 \end{array}$$

$$(4x^2 + 2)^2 = (4x^2)^2 + 2^2 + 2 \cdot 4x^2 \cdot 2$$
$$16x^4 + 4 + 16x^2$$

$$\begin{array}{r} 4x^2 + 2 \\ 4x^2 + 2 \\ \hline 8x^2 + 4 \end{array}$$

$$\begin{array}{r} 16x^4 + 8x^2 \\ \hline 16x^4 + 16x^2 + 4 \end{array}$$

$$(2-3x)^2 = 2^2 + (3x)^2 - 2 \cdot 2 \cdot 3x$$
$$4 + 9x^2 - 12x$$

$$\begin{array}{r} 2-3x \\ 2-3x \\ \hline -6x + 9x^2 \\ 4 - 6x \\ \hline 4 - 12x + 9x^2 \end{array}$$

$$(x^2+3)(x^2-3) = (x^2)^2 - 3^2 = x^4 - 9$$

$$\begin{array}{r} x^2+3 \\ x^2-3 \\ \hline -3x^2-9 \\ x^4+3x^2 \\ \hline x^4+0x^2-9 \end{array} \Rightarrow x^4-9$$