Name _____

## [08-09-18-T10]]

*Synthetic division*

■ **Find the quotient and the remainder by synthetic division.**

[1] $(2x^5 + 3x^4 - 4x^3 + x^2 + 2) \div (x - 2)$

[2] $(2x^5 + 3x^4 - 4x^3 + x^2 + 2) \div (x + 2)$

[3] $(x^5 + 2x^3 - 1) \div (x - 3)$

[4] $(2x^4 + x^3 + 5) \div (x + 1)$

[5] $(3x^4 - 5x^2 + x + 2) \div (x - 1)$

[6] $(8x^6 - 8x^5 + 9x^3 - 14x^2 + 3x + 1) \div (2x - 1)$

■ **Answers.**

[1] Quotient $2x^4 + 7x^3 + 10x^2 + 21x + 42$
Remainder 86

[2] Quotient $2x^4 - x^3 - 2x^2 + 5x - 10$
Remainder 22

[3] Quotient $x^4 + 3x^3 + 11x^2 + 33x + 99$
Remainder 296

[4] Quotient $2x^4 + x^3 + 5$
Remainder 6

[5] Quotient $3x^3 + 3x^2 - 2x - 1$
Remainder 1

[6] Quotient $4x^5 - 2x^4 - x^3 + 4x^2 - 5x - 1$
Remainder 0