(1) Determine if the following are polynomials. If they are, state its degree, leading term, and leading coefficient:

(a) $\dfrac{5x + 3}{x}$

(b) $x^2 + 7x^4 + 4x + 9x^3 - 4$

(c) $2x + 3x^{-1} - 5$

(d) $x^2 - x^3 + x^4 - 5$

(2) Perform the indicated operation and simplify your answers:

(a) $\left(-7x^3 + 2x^2 - 2x + 9\right) + \left(6x^3 + 6x^2 - 5x - 10\right)$

(b) $\left(3x^3 - 4x^2 + 3x - 5\right) - \left(6x^3 - 7x^2 - 10x + 4\right)$

(c) $(5x^2y - 8xy) + (10x^2y - 11xy)$

(d) $(x^3 - 5xy + 10y^2) - (7x^3 + 10xy + 9y^2)$

(3) Perform the indicated operation and simplify your answers:

(a) $(5x + 6)^2$

(b) $(x + 3)(x^2 - 3x + 9)$

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

(d) $(x + 7y)(3x + 5y)$