MATH-125 worksheet (Chapter 4)

(1) SIMPLIFY EACH OF THE FOLLOWING POLYNOMIAL EXPRESSIONS.

(a) $(3x^2 - 75) - (12x^2 - 10x - 12)$

(b) $(15a^5 - a^4 + 3a^2) + (a^5 + 3a^4 - 2a^3 - a - 5)$

(c) $(y-2)(3y^2 + y - 7)$

(d) $(2x-1)^2$

(e) $(4x-7)(4x+7)$

(2) Simplify the following. Write all answers with only positive exponents.

(a) $(a^2b^9)(a^{-5}b)$

(b) $(-2x^4z^2)^4 (3x^3yz)$

(x) $\left(\dfrac{-2a^8}{3b^5}\right)^3$

(d) $\dfrac{p^8qr^5}{p^3q^6 r}$

(e) $\left(\dfrac{3x^3}{y^{-4}}\right)^{-2}$

(f) $\dfrac{12x^2y^8z^{-3}w^2}{30x^{10}y^{-2}zw^2}$

(3) Divide

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

(b) $\dfrac{16z^3 - 8z^2 + 4z - 12}{4z}$