

MATH 099
Review on Polynomial Operations & Exponents

I. Perform the indicated operations.

(1) $(x^2 - 6x + 7) - (5x^2 - 3x - 2)$

(2) $3h^3t^2 \cdot 2h^2t^5$

(3) $5a^3(3ab^3 - a^2b^2 - 2a^3b)$

(4) $(2x - 5)^2$

(5) $\frac{-9x^3 + 3x^2 - 15x}{-3x^2}$

(6) $(w^3 + 2w^2 - 3) \div (w - 2)$

II. Use the rules of exponents to simplify. Write answers with positive exponents only.

(7) $(-4)^{-2}$

(8) $\left(\frac{2x^{-1}}{y^{-3}}\right)^{-2}$

(9) $\frac{10b^5c^3}{-2b^5c^9}$

(10) $(-2x^3y^2)^3$

(11) $\left(\frac{-3a^4b^8}{6a^3b^{12}}\right)^4$

(12) $(x + y)^0$

(13) $(4x^2y^{-3})^{-2}$

(14) $\left(\frac{4}{3}\right)^{-2}$

(15) $(-ab)^3(-3a^2b)^2$