9/28 Algebra I – Downing

Go over HW

2.5C Power of a Power

$(5x)^2 = 5x \cdot 5x = 5^2x^2 = 25x^2$

$(3x^2y^4)^3 = 3x^2y^4 \cdot 3x^2y^4 \cdot 3x^2y^4 = 27x^6y^{12}$

or just multiply the exponents

$(3^1x^2y^4)^3 = 3^3x^6y^{12} = 27x^6y^{12}$

Power of a Power – Distribute the exponent outside the parenthesis to all of the exponents inside the parenthesis

Ex) $(3xy^{-3})^2 = 3^2x^2y^{-6} = \boxed{\frac{9x^2}{y^6}}$

Ex) $(x^0y^{-5}z^2x^6)^4 = y^{-20}z^8x^{24} = \boxed{\frac{x^{24}z^8}{y^{20}}}$

Ex) $(-2x^4y^3x^2)^4 = (-2)^4(x^6)^4(y^3)^4(x^2)^4 = \boxed{16x^{24}y^{12}}$

Ex) $(3x^2y^{-1})^5 = 3^5x^{10}y^{-5} = \boxed{\frac{243x^{10}}{y^5}}$

Ex) $(3^1y^5z^{-1}x^6)^{-2} = 3^{-2}y^{-10}z^2x^{-12} = \frac{z^2}{3^2y^{10}x^{12}} = \boxed{\frac{z^2}{9y^{10}x^{12}}}$

HW – Backside of Worksheet

HW Quiz 3.1–3.3 – Group work