1-9-19

1. Grab your spiral notebook.
2. Put todays date at the top of the next page
3. Complete Bell Work.

Bell Work: Simplify each expression

1) $14^{-5} \cdot 14^{7} \cdot 14^{3} = 14^{-5+7+3} = 14^{5}$

2) $(6x^{-2})(-4x^{5}) = 6(-4)x^{-2+5} = -24x^{3}$

3) $(-5x^{4}y^{7})(2x^{-3}y^{-4})(-9x^{10}y^{12})$

$(-5)(2)(-9)(x^{4+(-3)+10})$

$90x^{11}y^{15}(y^{7+(-4)+12})$

Multiplying a power with another power

(Multiplying an exponent with another exponent)

1) $(5^4)^2 = 5^{4 \cdot 2} = 5^8$

$(5^4)(5^4)$

$(5 \cdot 5 \cdot 5 \cdot 5)(5 \cdot 5 \cdot 5 \cdot 5)$

2) $(m^4n^3)^6 = m^{4 \cdot 6} n^{3 \cdot 6}$

$m^{24} n^{18}$

3) $y^3\left(y^{\frac{5}{2}}\right)^{-2} = y^3\left(y^{\frac{5}{2}\cdot\frac{-2}{1}}\right)$

$y^3\left(y^{\frac{-10}{2}}\right) = y^3y^{-5} = y^{3+(-5)} = y^{-2}$

$= \frac{y^{-2}}{1} = \frac{1}{y^2}$

4) $w^{-2}\left(w^{\frac{5}{3}}\right)^3$

$w^{-2}\left(w^{\frac{5}{3}\cdot\frac{3}{1}}\right) = w^{-2}\left(w^{\frac{15}{3}}\right) = w^{-2}\left(w^5\right) = w^{-2+5}$

$= w^3$