Principles of Algebra Name/Date Clee / Today

ALL PROBLEMS CAN BE COMPLETED ON THIS WORKSHEET

WS 10A.1 – Multiplying Powers with Like Bases

#1-3, Simplify. Leave each product as a single base raised to an exponent.

1. $10^5 \cdot 10^3$

$= \boxed{10^8}$

When multiplying powers with the same base, ADD EXPONENTS.

2. $n^{12} \cdot n^{30}$

$= \boxed{n^{42}}$

3. $2^7 \cdot 2^4 \cdot 2^8 \cdot 2^1$

$= \boxed{2^{20}}$

#4-11, Simplify.

4. $(2mn^{10})(6m^4n^{12})$

$= \boxed{12m^5n^{22}}$

5. $(-4a^6b^7c^3)(-7a^{10}b^6c^5)$

$= \boxed{28a^{16}b^{13}c^8}$

6. $(3x^2z^4)(-8x^5y^3)$

$= \boxed{-24x^7y^3z^4}$

7. $(5p^2)(-m^9p^{21})$

$= \boxed{-5m^9p^{23}}$

8. $(-rwy)(-rwy)(-rwy)(-rwy^2)$

$= \boxed{r^4w^4y^5}$

9. $(5g^4j^6v^2)(-2g^8jv^9)(-j^{10}v^3)$

$= \boxed{10g^{12}j^{17}v^{14}}$

10. $(2x^ay^bz^c)(-y^wz^g)$

$= \boxed{-2x^ay^{b+w}z^{c+g}}$

11. $(-a^bc^{2d}e^{3f})(-a^{3b}c^re)$

$= \boxed{a^{4b}c^{2d+r}e^{3f+1}}$