Exponents & Multiplication

* Rule only applies to like bases

3^2 — Exponent; Base

x^3 — Exponent; Base

3^x — Exponent; Base

-5^{-2} — Exponents; Base

$3x^2$ — Exponent; coefficient; base

$3^2 \cdot 3^3 = 3^{2+3} = 3^5$

$(3 \cdot 3) \cdot (3 \cdot 3 \cdot 3)$

$x^3 \cdot x^4 = x^7$

$x^{-4} \cdot x^7 = x^{(-4+7)} = x^3$

$3^3 \cdot 2^2 = 6^5$

$27 \cdot 4 = 108$

$x^2 y^4 \cdot x^3 y^1 = x^{(2+3)} y^{(4+1)}$

$x^5 y^5$

$5 \cdot x^2 y^1 \cdot 4 \cdot x^3 y^3 = 20 x^5 y^4$

$15xy \cdot 12x$

Simplify

1. $3^3 \cdot 3^5$
2. $x^2 \cdot x^5$
3. $y^{-3} \cdot y^5$
4. $x^2y^3 \cdot x^5y$
5. $3x^2 \cdot 2x^3$
6. $xy^2z^3 \cdot x^3yz$
7. $-5^2 \cdot -5^5$
8. $3^m \cdot 3^n$
9. $-5x^3 \cdot 4x^{-2}$
10. $10xy^2 \cdot 3x^3y^3$