

## Multiplying Monomials and Powers of Monomials

Simplify.

$$1. \quad (x)(3x) = \boxed{3x^2}$$

$$2. \quad (-2ab)(-2a^2) = \boxed{4a^3b}$$

$$3. \quad (2yz)(3y^2) = \boxed{6y^3z}$$

$$4. \quad x^2(3y^2)(4xy) = \boxed{12x^3y^3}$$

$$5. \quad 4x^5(-7x^3y^2z)(-7y^2z) = \boxed{4x^8y^4z^2}$$

$$6. \quad (x^4)^2 = \boxed{x^8}$$

$$7. \quad (-3m^2)^3 = (-3)^3(m^2)^3 = \boxed{-27m^6}$$

$$8. \quad (2c^4d^3)^4 = (2)^4(c^4)^4(d^3)^4 = \boxed{16c^{16}d^{12}}$$

$$9. \quad (-7p^5q^2)^2 = (-1)^2(p^5)^2(q^2)^2 = \boxed{1p^{10}q^4}$$

$$10. \quad -(p^5q^2)^2 = -(p^5)^2(q^2)^2 = \boxed{-p^{10}q^4}$$

$$11. \quad (3u)(uv^4)^2 = (3u)(u^2v^8) = \boxed{3u^3v^8}$$

$$12. \quad -2s(st)^4 = (-2s)(s^4t^4) = \boxed{-2s^5t^4}$$

$$13. \quad 3m^2n^3(m^2n)^3 = (3m^2n^3)(m^6n^3) = \boxed{3m^8n^6}$$

$$14. \quad (yz^2)^2(-4y^2)(2z^2) = (y^2z^4)(-4y^2)(2z^2)$$

$$15. \quad (-7pq^2)(2pq)^3(5p^2q) = \boxed{32y^6z^6}$$

$$(7p^2q^4)(8p^3q^3)(5p^2q) = \boxed{40p^7q^8}$$