1. x^3 * x^4 = ?

Same base: add exponents 3 + 4

Answer: x^7

2. x^8 / x^2 = ?

Subtract: 8 - 2

Answer: x^6

3. (x^3)^2 = ?

Multiply: 3 x 2

Answer: x^6

4. 2^3 * 2^2 = ? (as a number)

2^5

Answer: 32

5. (3x)^2 = ?

Square BOTH: 3^2 and x^2

Answer: 9x^2

6. (-2x^2)^3 = ?

(-2)^3 = -8; (x^2)^3 = x^6

Answer: -8x^6

7. x^5 * x = ?

x alone is x^1: 5 + 1

Answer: x^6

8. (4x^3)(2x^2) = ?

Coefficients: 4 x 2 = 8

Exponents: 3 + 2

Answer: 8x^5

9. (2x^2y)^3 * x = ? ★ challenge

Cube everything: 8x^6y^3

Then times x: x^7

Answer: 8x^7y^3

10. 12x^7 / (3x^2)^2 = ? ★ challenge

Bottom first: 9x^4

12/9 = 4/3; x^(7-4)

Answer: (4/3)x^3