

Correct. Factor both terms, find their GCF, and factor it out of the expression.

$$24x^3y = 2 \cdot 2 \cdot 2 \cdot 3 \cdot x \cdot x \cdot x \cdot y$$

$$48x^2y^2 = 2 \cdot 2 \cdot 2 \cdot 2 \cdot 3 \cdot x \cdot x \cdot y \cdot y$$

$$\text{GCF} = 2 \cdot 2 \cdot 2 \cdot 3 \cdot x \cdot x \cdot y = 24x^2y$$

$$24x^3y - 48x^2y^2 = 24x^2y(x) - 24x^2y(2y) = 24x^2y(x - 2y)$$

The missing exponent is 2.