

$$* x + x = 2x$$

$$* x \cdot x = x^2$$

Warm-up #2: Simplifying Rational Expressions

$$1. \frac{xy}{x^2y^3} \cdot \frac{x^2y^2z}{x} = \boxed{xz}$$

$$2. \frac{2x+y}{4x^2-y^2} = \frac{\cancel{2x+y}}{(2x+y)(2x-y)} = \boxed{\frac{1}{2x-y}}$$

DOTS \nearrow

$$3. \frac{x^4+2x^2+1}{x^2+1} \frac{K}{F}$$

$$x^4 + 2x^2 + 1 \cdot \frac{x}{x^2+1}$$

$$(\cancel{x^2+1})(x^2+1) \cdot \frac{x}{\cancel{x^2+1}}$$

$$x(x^2+1)$$

$$\boxed{x^3+x}$$

$$4. \left(\frac{x}{x}\right)x - \frac{y}{x}$$

$$\frac{x^2}{x} - \frac{y}{x} = \boxed{\frac{x^2-y}{x}}$$