

\*\*Do all problems on your own paper\*\*

**Simplify.**

1. 
$$\frac{x^{n+2} - x^n y^2}{y^{n+2} - y^n x^2}$$

2. 
$$\frac{x^{2c} + x^c - 2}{x^c y^{b+2}} \div \frac{x^{2c} - 1}{x^{c+4} y^{b+6}}$$

3. 
$$\frac{3x^2 + 14x + 8}{4x^2 + 18x - 10} \cdot \left( \frac{3x^2 + 20x + 12}{12x^2 + 66x - 36} \right)^{-1}$$

4. 
$$\frac{x^5 - x^3 + x^2 - 1 - (x^3 - 1)(x + 1)^2}{(x^2 - 1)^2}$$

Answers: 1. 
$$\frac{-x^n}{y^n}$$

2. 
$$\frac{x^4 y^4 (x^c + 2)}{x^{c+1}}$$

3. 
$$\frac{3(x+4)}{x+5}$$

4. 
$$\frac{-2x}{x-1}$$

