

Section 3.3 and 3.4 – Final Exam Prep

Answer the following four questions, show as many steps as you need to, write clearly and neatly.

1. Perform the indicated operations, state the Domain restrictions.

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

2. Perform the indicated operations, state the Domain restrictions.

$$\frac{2x + 8}{x^2 + 5x + 6} - \frac{x - 1}{x^2 + 3x + 2} - \frac{x + 5}{x^2 + 4x + 3}$$

3. Simplify the combined operations. State the Domain Restrictions.

$$\left(1 - \frac{4}{x^2}\right) \div \left(\frac{2}{x^2} - \frac{1}{x}\right)$$

4. Simplify the Combined Operation, State the Domain Restrictions.

$$\frac{\frac{x}{x^2 - 4} - \frac{2x}{x^2 + x - 6}}{\frac{2x}{x^2 + x - 6} - \frac{x}{x^2 - 4}}$$