

**Section 3.5 and 3.6 – Final Exam Prep**

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

1. Solve for the unknown value. State Domain Restrictions and Check Validity of the solution.

$$\frac{x}{4} - \frac{x+3}{6} = \frac{x-3}{3}$$

2. Solve for the unknown value. State Domain Restrictions and Check Validity of the solution.

$$\frac{3}{2x+8} = \frac{4}{x+2} + \frac{12}{x^2+6x+8}$$

3. Solve for the unknown value. State Domain Restrictions and Check Validity of the solution.

$$\frac{x}{x^2 + x - 2} = \frac{x}{x^2 + 3x + 2} - \frac{x}{x^2 - 1}$$

4. A boat can travel  $20\text{km}$  against a current in the same time it can travel  $60\text{km}$  with the current. If the current is  $4\text{km/hr}$ , find the speed of the boat in still water.

Remember:  $Speed = \frac{Distance}{Time}$