1) Simplify and State the excluded values?
$$\frac{x^{2}-4x-12}{x^{2}-4}$$

2) What is the LCD of the rational expressions below?

$$\frac{3x+1}{x^{2}-7x}and\frac{x+5}{x^{2}-6x-7}$$

3) What is the solution to the equation?

$$\frac{-2}{x+3}-1=0$$

For 4-5, add or subtract the given expressions. Give each result in simplest form and state the combined excluded values.

4)$\frac{7}{x^{2}+8x+15}-\frac{3}{x+5}$

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

For 6-7, multiply or divide the given expressions. Give each result in simplest form and state any excluded values.

6) $\frac{x^{2}+2x-35}{x^{2}-7x+12}÷\frac{x^{2}-13x+40}{3x^{2}-12x}$

7) $\frac{x^{2}-x-20}{x+4}∙\frac{x-3}{x^{2}-2x-15}$

For 8–10, solve each rational equation algebraically.

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

9) $\frac{1}{2x}+\frac{x}{3}=1$

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