Rational Relationships Test Review Name _____

** Do all work on Notebook Paper! **

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1. (omitted)

2. Write as the sum of partial fractions: $\frac{x^2+20x-45}{x^3-2x^2-15x}$

3. Solve: $\frac{3}{3x-12}+\frac{2x}{48-3x^2}=\frac{5}{x+4}$

4. Simplify: $\frac{\frac{x}{y^2}+\frac{y}{x^2}}{\frac{1}{x^2}-\frac{1}{y^2}}$

5. Simplify: $\frac{x^3+x^2y-xy^4-y^5}{x^2+xy^2+xy+y^3}$

6. Simplify: $\frac{10x^2-20x}{40x^3-80x^2}\cdot\frac{24x^3+20x}{6x^2+5}$

7. Simplify: $\frac{1}{3x+3}+\frac{1}{9x}$

8. Simplify: $\frac{x^2}{x+3}-\frac{3x}{3-x}$

9. Solve: $\frac{x}{x+2}+x=\frac{5x+8}{x+2}$

10. Write as a sum of partial fractions: $\frac{2x^3-4x^2-15x+5}{x^2-2x-8}$

Answers:

1) 2) $\frac{3}{x}-\frac{4}{x+3}+\frac{2}{x-5}$ 3) $x=\frac{36}{7}$ 4) $\frac{x^2-xy+y^2}{y-x}$ 5) $x-y^2$ 6) 1

7) $\frac{4x+1}{9x(x+1)}$ 8) $\frac{x(x^2+9)}{(x+3)(x-3)}$ 9) $x=4$ 10) $2x+\frac{3}{2(x-4)}-\frac{1}{2(x+2)}$