**EMA Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Solving Rational Expressions – Day 2 Period\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Date\_\_\_\_\_\_\_\_**

**Solve each equation**.

1. $\frac{4}{2x-3}=\frac{x}{5}$ 2. $\frac{1}{3}=\frac{3}{5x}-\frac{4}{3x}$

3. $\frac{1}{x}+\frac{3x+12}{x^{2}-5x}=\frac{7x-56}{x^{2}-5x}$ 4. $\frac{1}{x-2}+\frac{1}{x^{2}-7x+10}=\frac{6}{x-2}$

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

10. $\frac{3}{x-3}+\frac{4}{x-4}=\frac{25}{x^{2}-7x+12}$ 12. $\frac{1}{2x+2}+\frac{51}{x^{2}-1}=\frac{1}{x-1}$

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**Perform the indicated operation and simplify.**

14. $\frac{x-4}{x^{2}-16}÷\frac{4x-16}{x^{2}+5x+4}$ 16. $\frac{10x^{2}-20x}{40x^{3}-80x^{2}}∙\frac{16x^{3}+80x^{2}}{6x+30}$

18. $\frac{2x^{3}+10x^{2}+12x}{2x^{2}+10x}∙\frac{4x-12}{x^{2}-9}$ 20. $\frac{\frac{x+7}{x^{2}-9}}{\frac{x^{2}+9x+14}{3x^{2}-9x}}$

22. $\frac{5x}{x^{2}-7x}-\frac{4}{2x-14}$ 24. $\frac{4x+1}{x^{2}-4}-\frac{3}{x-2}$

26. $\frac{3x+2}{x^{2}-2x-3}+\frac{x+1}{x-3}$ 28. $\frac{2x}{x^{2}+8x+15}-\frac{x-3}{x+5}$

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Retro Question – Evaluate.

30. Given $f\left(x\right)=2x^{2}-5x+3$ and $g\left(x\right)=-x^{2}+2x-7$, find:

a.) $g(-3)$ b.) $f(m-4)$ c.) $f\left(g\left(2\right)\right)$