Name: _____ Operations with rational review:

Guided Notes:

Simplify each and state the excluded values.

1) $\dfrac{45n-36}{18n+81}$

2) $\dfrac{-p^2+12p-27}{p^2-10p+21}$

Simplify each expression.

3) $\dfrac{27a^3}{2a^2}\cdot\dfrac{14a^3+16a^2}{63a+72}$

4) $\dfrac{k+1}{k^2+5k-50}\cdot\dfrac{-k^2+9k-20}{k^2-2k-3}$

5) $\dfrac{3a-3}{a-1}\div\dfrac{3a+15}{2a+10}$

6) $\dfrac{n^2-5n-24}{6n+18}\div\dfrac{n^2-12n+32}{n^2-9n+20}$

7) $\dfrac{2b}{3}-\dfrac{b+2}{2b+14}$

8) $\dfrac{8m}{7m^2+7m}-8m$

9) $\dfrac{6}{n-6}+\dfrac{2}{n+5}$

10) $\dfrac{5}{v+2}+\dfrac{4}{5v+4}$

11) $\dfrac{\frac{5}{m}+\frac{m}{9}}{3}$

12) $\dfrac{\frac{a^2}{a+2}-\frac{25}{a+2}}{\frac{1}{a+2}+\frac{5}{3}}$

Solve each equation. Remember to check for extraneous solutions.

13) $\dfrac{2}{n^2}=\dfrac{5}{2n}+\dfrac{1}{n^2}$

14) $\dfrac{1}{x^2-3x-18}=1-\dfrac{x+1}{x+3}$