Math 2 Name_____

Unit 5.5 Multiply and Divide Rational Expressions Practice

Period____

Simplify each and state the excluded values.

1) $\frac{10}{3} \div \frac{3a}{10}$

$\frac{100}{9a}$; $\{0\}$

2) $\frac{4}{2} \cdot \frac{7v}{5}$

$\frac{14v}{5}$; None

3) $\frac{6}{7x} \div \frac{2}{7}$

$\frac{3}{x}$; $\{0\}$

4) $\frac{4b^2}{4} \cdot \frac{7}{2b}$

$\frac{7b}{2}$; $\{0\}$

5) $\frac{4}{9x^3} \div \frac{8}{9}$

$\frac{1}{2x^3}$; $\{0\}$

6) $\frac{2}{9} \cdot 5x$

$\frac{10x}{9}$; None

7) $\frac{9m(7m+2)}{9m(2m+7)} \cdot \frac{10(2m+7)}{7m+2}$

10; $\left\{0, -\frac{7}{2}, -\frac{2}{7}\right\}$

8) $\frac{2n(2n+3)}{2n} \cdot \frac{5}{(n+3)(2n+3)}$

$\frac{5}{n+3}$; $\left\{0, -3, -\frac{3}{2}\right\}$

9) $\frac{3k(2k+5)}{3k} \cdot \frac{(k+7)(k-8)}{2k^2(2k+5)}$

$\frac{(k+7)(k-8)}{2k^2}$; $\left\{0, -\frac{5}{2}\right\}$

10) $\frac{(7b+9)(3b-10)}{56} \div \frac{(7b+9)(3b-10)}{2}$

$\frac{1}{28}$; $\left\{-\frac{9}{7}, \frac{10}{3}\right\}$

11) $\dfrac{10p^2(p-4)}{10} \cdot \dfrac{8}{16(p-4)}$

$\dfrac{p^2}{2}$; $\{4\}$

12) $\dfrac{p+5}{10(5p+2)} \cdot \dfrac{(5p-2)(5p+2)}{5p-2}$

$\dfrac{p+5}{10}$; $\left\{-\dfrac{2}{5}, \dfrac{2}{5}\right\}$

13) $\dfrac{5}{35m+49} \div \dfrac{4}{20m+28}$

$\dfrac{5}{7}$; $\left\{-\dfrac{7}{5}\right\}$

14) $\dfrac{n+4}{3n^2+7n-20}(3n-5)$

1; $\left\{\dfrac{5}{3}, -4\right\}$

15) $\dfrac{15v^2+6v}{2v-9} \cdot \dfrac{2v-9}{5v+2}$

$3v$; $\left\{\dfrac{9}{2}, -\dfrac{2}{5}\right\}$

16) $(v-9) \div \dfrac{5-24v-5v^2}{5v-1}$

$\dfrac{v-9}{-5-v}$; $\left\{\dfrac{1}{5}, -5\right\}$

17) $\dfrac{40+9x-10x^2}{5x^2+18x+16} \div \dfrac{6x^2-17x+5}{9x^2-3x}$

$-\dfrac{3x}{x+2}$; $\left\{-2, -\dfrac{8}{5}, 0, \dfrac{1}{3}, \dfrac{5}{2}\right\}$

18) $\dfrac{12n+48}{2n^2+28n+80} \cdot \dfrac{-10n^2+28n-16}{10n^2-28n+16}$

$-\dfrac{6}{n+10}$; $\left\{-10, -4, 2, \dfrac{4}{5}\right\}$

19) $\dfrac{r-9}{7r^2-52r+21} \div \dfrac{30r^2+54r}{35r^2+48r-27}$

$\dfrac{r-9}{6r(r-7)}$; $\left\{7, \dfrac{3}{7}, -\dfrac{9}{5}, 0\right\}$

20) $(9x^3-24x^2) \cdot \dfrac{8x-36}{6x^2-43x+72}$

$12x^2$; $\left\{\dfrac{9}{2}, \dfrac{8}{3}\right\}$

21) $\dfrac{63n^2-27n}{5n-7} \cdot \dfrac{10n-14}{49n^2-21n}$

$\dfrac{18}{7}$; $\left\{\dfrac{7}{5}, 0, \dfrac{3}{7}\right\}$

22) $\dfrac{18k^2-81k}{27k-72} \cdot \dfrac{27k-72}{14k^2-63k}$

$\dfrac{9}{7}$; $\left\{\dfrac{8}{3}, 0, \dfrac{9}{2}\right\}$