Math 2   Name_____

Unit 5.3 Simplifying Rational Expressions Practice   Period_____

Simplify each and state the excluded values.

1) $\dfrac{18a^5}{24a^2}$

   $\dfrac{3a^3}{4}$; $\{0\}$

2) $\dfrac{100r^3}{30r^2}$

   $\dfrac{10r}{3}$; $\{0\}$

3) $\dfrac{21x^2}{56x}$

   $\dfrac{3x}{8}$; $\{0\}$

4) $\dfrac{36x^3}{24x^5}$

   $\dfrac{3}{2x^2}$; $\{0\}$

5) $\dfrac{12n^2}{42n}$

   $\dfrac{2n}{7}$; $\{0\}$

6) $\dfrac{24r^2}{24r}$

   r ; $\{0\}$

7) $\dfrac{3x^2 + 14x - 49}{x + 7}$

   $3x - 7$; $\{-7\}$

8) $\dfrac{7x^2 + 26x - 45}{x + 5}$

   $7x - 9$; $\{-5\}$

9) $\dfrac{45n^2 - 63n}{45n^2}$

   $\dfrac{5n - 7}{5n}$; $\{0\}$

10) $\dfrac{6 - r}{9r - 54}$

   $-\dfrac{1}{9}$; $\{6\}$

11) $\dfrac{3a - 24}{a - 8}$

   3 ; $\{8\}$

12) $\dfrac{4}{6a - 2}$

   $\dfrac{2}{3a - 1}$; $\left\{\dfrac{1}{3}\right\}$

13) $\dfrac{2 + x - 3x^2}{5x^2 - 11x + 6}$

$\dfrac{-2 - 3x}{5x - 6}$; $\left\{1, \dfrac{6}{5}\right\}$

14) $\dfrac{7k^2 + 29k - 30}{7k^2 + 28k - 35}$

$\dfrac{7k - 6}{7(k - 1)}$; $\{1, -5\}$

15) $\dfrac{35x^2 + 70x}{35x^2 + 7x}$

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

16) $\dfrac{3k^2 - 26k - 9}{5k^2 - 42k - 27}$

$\dfrac{3k + 1}{5k + 3}$; $\left\{9, -\dfrac{3}{5}\right\}$

17) $\dfrac{15r - 3}{21r + 6}$

$\dfrac{5r - 1}{7r + 2}$; $\left\{-\dfrac{2}{7}\right\}$

18) $\dfrac{50x - 80}{30x + 100}$

$\dfrac{5x - 8}{3x + 10}$; $\left\{-\dfrac{10}{3}\right\}$

19) $\dfrac{7n^4 - 21n^3 + 14n^2}{3n - 6}$

$\dfrac{7n^2(n - 1)}{3}$; $\{2\}$

20) $\dfrac{3v^2 + 38v + 80}{8v^2 + 72v - 80}$

$\dfrac{3v + 8}{8(v - 1)}$; $\{1, -10\}$

21) $\dfrac{5m^2 - 52m + 20}{10m^4 - 90m^3 - 100m^2}$

$\dfrac{5m - 2}{10m^2(m + 1)}$; $\{0, 10, -1\}$

22) $\dfrac{9b^2 + 63b - 162}{5b^2 + 46b + 9}$

$\dfrac{9(b - 2)}{5b + 1}$; $\left\{-9, -\dfrac{1}{5}\right\}$

23) $\dfrac{4p^3 + 56p^2 + 160p}{5p^2 + 40p - 100}$

$\dfrac{4p(p + 4)}{5(p - 2)}$; $\{2, -10\}$

24) $\dfrac{18p + 63}{63p^2 + 189p + 126}$

$\dfrac{2p + 7}{7(p + 2)(p + 1)}$; $\{-2, -1\}$