Algebra 2 Name_____ ID: 1

Simplifying Rational Expressions

Date_____ Period____

Simplify each and state the excluded values.

1) $\dfrac{50a}{25a^2 - 25a}$

2) $\dfrac{7x^2 + 42x}{x + 6}$

3) $\dfrac{56x + 16}{64}$

4) $\dfrac{a^2 - 10a + 24}{a - 4}$

5) $\dfrac{10x^2 + 16x}{6x^2 + 8x}$

6) $\dfrac{n^2 - 7n - 30}{n^2 - 19n + 90}$

7) $\dfrac{3x + 18}{x^2 - 36}$

8) $\dfrac{r^2 - 17r + 72}{6r - 48}$

9) $\dfrac{2n^2 - 2n - 12}{7n^2 - 16n - 15}$

10) $\dfrac{70b^2 + 80b}{50b^2 + 10b}$

11) $\dfrac{m^2 + 7m - 30}{3m^2 + 21m - 90}$

12) $\dfrac{x^2 - 2x - 3}{9x^2 + 18x + 9}$

13) $\dfrac{n^2 - 12n + 32}{n^3 + n^2 - 20n}$

14) $\dfrac{p^2 + 6p - 27}{p^2 - 81}$

Simplifying Rational Expressions

Date_____ Period____

Simplify each and state the excluded values.

1) $\dfrac{50a}{25a^2 - 25a}$

$\dfrac{2}{a-1}$; $\{0, 1\}$

2) $\dfrac{7x^2 + 42x}{x + 6}$

$7x$; $\{-6\}$

3) $\dfrac{56x + 16}{64}$

$\dfrac{7x+2}{8}$; No excluded values.

4) $\dfrac{a^2 - 10a + 24}{a - 4}$

$a - 6$; $\{4\}$

5) $\dfrac{10x^2 + 16x}{6x^2 + 8x}$

$\dfrac{5x+8}{3x+4}$; $\left\{0, -\dfrac{4}{3}\right\}$

6) $\dfrac{n^2 - 7n - 30}{n^2 - 19n + 90}$

$\dfrac{n+3}{n-9}$; $\{10, 9\}$

7) $\dfrac{3x + 18}{x^2 - 36}$

$\dfrac{3}{x-6}$; $\{6, -6\}$

8) $\dfrac{r^2 - 17r + 72}{6r - 48}$

$\dfrac{r-9}{6}$; $\{8\}$

9) $\dfrac{2n^2 - 2n - 12}{7n^2 - 16n - 15}$

$\dfrac{2(n+2)}{7n+5}$; $\left\{3, -\dfrac{5}{7}\right\}$

10) $\dfrac{70b^2 + 80b}{50b^2 + 10b}$

$\dfrac{7b+8}{5b+1}$; $\left\{0, -\dfrac{1}{5}\right\}$

11) $\dfrac{m^2 + 7m - 30}{3m^2 + 21m - 90}$

$\dfrac{1}{3}$; $\{3, -10\}$

12) $\dfrac{x^2 - 2x - 3}{9x^2 + 18x + 9}$

$\dfrac{x-3}{9(x+1)}$; $\{-1\}$

13) $\dfrac{n^2 - 12n + 32}{n^3 + n^2 - 20n}$

$\dfrac{n-8}{n(n+5)}$; $\{0, 4, -5\}$

14) $\dfrac{p^2 + 6p - 27}{p^2 - 81}$

$\dfrac{p-3}{p-9}$; $\{9, -9\}$