Algebra 2, Simplifying Rational Expressions Name_____

Homework

Date_____ Period____

Simplify each and state the excluded values.

1) $\frac{100p^4}{50p^5}$

$\frac{2}{p}$; $\{0\}$

2) $\frac{63p}{28p^2}$

$\frac{9}{4p}$; $\{0\}$

3) $\frac{56n^2}{32n^5}$

$\frac{7}{4n^3}$; $\{0\}$

4) $\frac{54x^2}{30x^3}$

$\frac{9}{5x}$; $\{0\}$

5) $-\frac{40m^3}{30m}$

$-\frac{4m^2}{3}$; $\{0\}$

6) $\frac{10x^3}{10x^2-4x}$

$\frac{5x^2}{5x-2}$; $\left\{0, \frac{2}{5}\right\}$

7) $\frac{10m^2-40m}{4-m}$

$-10m$; $\{4\}$

$\frac{10m(m-4)}{4-m}$ $\frac{-10m(4-m)}{4-m}$

$4-m \neq 0$

$-m \neq -4$

$m \neq 4$

8) $\frac{v^2-v-2}{v+1}$

$v-2$; $\{-1\}$

9) $\frac{r-7}{r^2-15r+56}$

$\frac{1}{r-8}$; $\{8, 7\}$

10) $\frac{8b-36}{16b^2}$

$\frac{2b-9}{4b^2}$; $\{0\}$

11) $\frac{5x^2+20x}{x^2+13x+36}$

$\frac{5x}{x+9}$; $\{-9, -4\}$

$\frac{5x(x+4)}{(x+4)(x+9)}$

$x+4 \neq 0$ $x+9 \neq 0$

$x \neq -4$ $x \neq -9$

12) $\frac{10n^2+45n}{25n^2-30n}$

$\frac{2n+9}{5n-6}$; $\left\{0, \frac{6}{5}\right\}$

13) $\frac{a^2-7a+10}{a^2+a-6}$

$\frac{a-5}{a+3}$; $\{2, -3\}$

14) $\frac{x^2-4}{x^2-12x+20}$

$\frac{x+2}{x-10}$; $\{10, 2\}$

15) $\frac{18v^2-48v}{18v^2-48v}$

1; $\left\{0, \frac{8}{3}\right\}$