

## Rational Expressions

State the excluded values for each.

1)  $\frac{60x^3}{12x}$

2)  $\frac{70v^2}{100v}$

3)  $\frac{m+7}{m^2+4m-21}$

4)  $\frac{n^2+6n+5}{n+1}$

5)  $\frac{35x-35}{25x-40}$

6)  $\frac{-n^2+16n-63}{n^2-2n-35}$

Simplify each and state the excluded values.

7)  $\frac{p+4}{p^2+6p+8}$

8)  $\frac{9}{15a-15}$

9)  $\frac{2a^2+10a}{3a^2+15a}$

10)  $\frac{p^2-3p-10}{p^2+p-2}$

11)  $\frac{x^2+x-6}{x^2+8x+15}$

12)  $\frac{a^2+5a+4}{a^2+9a+20}$