

Name: KEY

Algebra II-2yr Review 9.4

Simplify the rational expression. State any restrictions on the variable.

1) $\frac{d^2 - d - 56}{d - 8} = \frac{\cancel{(d-8)}(d+7)}{\cancel{(d-8)}} = \textcircled{d+7} \quad d \neq 8$

2) Simplify the rational expression. State any restrictions on the variable.

$\frac{x^2 - 5x + 4}{x^2 - 6x + 8} = \frac{\cancel{(x-4)}(x-1)}{\cancel{(x-4)}(x-2)} = \textcircled{\frac{x-1}{x-2}} \quad x \neq 4, 2$

3) Multiply or divide. State any restrictions on the variables.

$\frac{2k^2 \cdot 10j^3}{5j^2 \cdot 6k^4} = \frac{\textcircled{2kj^3}}{3} \quad k \neq 0, j \neq 0$

4) Multiply or divide. State any restrictions on the variables.

$\frac{y^2}{y+3} \cdot \frac{y^2+9y+18}{y^2-4y} = \frac{\cancel{y} \cdot \cancel{(y+3)}(y+6)}{\cancel{y}(y-4)} = \textcircled{\frac{y(y+6)}{y-4}} \quad y \neq 0, y \neq -3, y \neq 4$

5) Multiply or divide. State any restrictions on the variables.

$\frac{c+2}{c+5} \div \frac{c-5}{c^2+7c+10} = \frac{(c+2)}{\cancel{(c+5)}} \cdot \frac{\cancel{(c+5)}(c+2)}{(c-5)} = \textcircled{\frac{(c+2)(c+2)}{(c-5)} \text{ or } \frac{(c+2)^2}{(c-5)}} \quad c \neq \pm 5$

Multiply or divide. State any restrictions on the variables.

6) $\frac{x^2 - 16}{x^2 + 5x + 6} \div \frac{x^2 + 5x + 4}{x^2 - 2x - 8} = \frac{\cancel{(x+4)}(x-4)}{\cancel{(x+2)}(x+3)} \cdot \frac{\cancel{(x-4)}(x+2)}{\cancel{(x+4)}(x+1)} = \textcircled{\frac{(x-4)}{(x+3)(x+1)}} \quad x \neq -1, -2, -3, -4$