

## Quiz: Rational Expressions

Name: \_\_\_\_\_

### 1. Fully factor the following:

a)  $x^2 - 2x - 24$

b)  $2x^2 - x - 3$

c)  $3x^2 - 6x - 24$

d)  $4x^2 - 16$

e)  $x^2 - 5x + 7$

f)  $2x^2y + 6x^2y - 8xy$

### 2. Simplify the following.

a)  $\frac{-5x-15}{2x+6}$

b)  $\frac{x^2-x-2}{x-1} \cdot \frac{x+3}{x+1}$

c)  $\frac{x}{x-2} + \frac{x+4}{x+5}$

### 3. Simplify the following and state any restrictions.

a)  $\frac{5+5x}{x^2-2x-3}$

b)  $\frac{x-3}{x+2} \div \frac{x^2-9}{x+1}$

c)  $\frac{x}{x^2+5x+6} - \frac{3}{x^2-4}$

Bonus: Simplify  $\rightarrow \frac{1-\frac{x}{x+1}}{\frac{5}{x}-\frac{2}{x+1}}$