

1. Find any values of the variable for which the following rational expression is undefined.

$$\frac{3x}{x^2+6x+8}$$

2. Write the following rational expressions in lowest terms.

a) $\frac{x^2-y^2}{x^2+2xy+y^2}$

b) $\frac{2x^3+7x^2-30x}{2x^3-11x^2+15x}$

$$c) \frac{ac-bc-ad+bd}{ac-ad-bd+bc}$$

$$d) \frac{x^2-1}{1-x}$$

3. Multiply. Write the answer in lowest terms.

$$\frac{x^2-x-6}{x^2-2x-8} \cdot \frac{x^2+7x+12}{x^2-9}$$

4. Divide. Write the answer in lowest terms.

$$\frac{x^2-3x+2}{x^2+4x+3} \div \frac{x-1}{x+1}$$

Q: There is a word in the English language in which the first two letters signify a male, the first three letters signify a female, the first four signify a great man, and the whole word, a great woman. What is the word?