

Name: _____

Date: _____

Learning Goal 6.1

Simplifying and applying operations to rational expressions, identifying any non-permissible values.

Recall Multiplying and Dividing Fractions

$$\frac{5}{8} \times \frac{2}{35}$$

$$\frac{7}{9} \div \frac{35}{6}$$

Extend to rational expressions. Simplify and state the non-permissible values.

a. $\left(\frac{4x^2}{3xy}\right)\left(\frac{y^2}{8x}\right)$

b. $\frac{10ac^3}{3b^2} \div \frac{2b^5c^4}{15ab^2}$

c. $\frac{x+3}{2} \times \frac{x+1}{4}$

d. $\frac{x-3}{x^2-9} \div \frac{x}{x+3}$

e.
$$\frac{a^2 - a - 12}{a^2 - 9} \times \frac{a^2 - 4a + 3}{a^2 - 4a}$$

f.
$$\frac{x^2 - 4}{x^2 - 4x} \div \frac{x^2 + x - 6}{x^2 + x - 20}$$

Example Write a polynomial A so that the expression simplifies to -1 .

$$\frac{3n^2 + 2n - 8}{n^2 + 4n + 4} \times \frac{A}{3n^2 - n - 4}$$