

LESSON 8.2 Assignment

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Name _____ Date _____

Different Client, Same Deal**Multiplying and Dividing Rational Expressions**

1. Alicia multiplied $\frac{3x-6}{8x-16} \cdot \frac{4x}{9}$. Her work is shown. _____

$$\begin{aligned} \frac{3x-6}{8x-16} \cdot \frac{4x}{9} &= \frac{\overset{1}{3}x-6}{\underset{2}{8}x-\underset{2}{16}} \cdot \frac{\overset{1}{4}x}{\underset{3}{9}} \\ &= \frac{x-6}{-14} \cdot \frac{1}{3} \\ &= \frac{x-6}{-42}; x \neq 2 \end{aligned}$$

- a. Identify the error(s) in Alicia's work.

- b. Correctly multiply $\frac{3x-6}{8x-16} \cdot \frac{4x}{9}$. List any restrictions on the variables. _____

2. Multiply $\frac{2x^2-32}{x^2-10x+24} \cdot \frac{x^2-4x-12}{10x+20}$. List any restrictions on the variables.

3. Multiply $\frac{6x}{x-9} \cdot \frac{x^2-10x+9}{2x+12} \cdot \frac{x+6}{x^4+x^3-2x^2}$. List any restrictions on the variables.

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4. Divide $\frac{8a^3b}{5c} \div \frac{10ab^2}{3c}$. List any restrictions on the variables.
5. Divide $\frac{14x^2}{4x + 20} \div \frac{7x^2 - 21x}{x^2 - 25}$. List any restrictions on the variables.
6. Divide $\frac{xy^2 - 6y^2}{2x + 18} \div \frac{2xy + y}{8x + 24} \div \frac{x^2 - 3x - 18}{2x^2 - 3x - 2}$. List any restrictions on the variables.