

NAME: _____

U4:A2 Rational Expressions

1. Determine the non-permissible values of the variable:

$\frac{1}{6x - 3}$ <p><i>*remember, non-permissible is when the denominator is ≥ 0</i></p>	$\frac{1}{x^2 + 3x}$ <p><i>*remember, factor the denominator to find non-permissible values</i></p>	$\frac{6x + 3}{5x - 10x^2}$ <p><i>*remember, numerator is not needed to find non-permissible values!</i></p>
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[6]

2. Simplify each rational expression. State any non-permissible values:

$\frac{4x(x + 1)}{2(x + 1)}$	$\frac{8x^2y^3}{12y^2}$	$\frac{x^2 - 25}{x^2 + 5x - 50}$
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[9]

3. Is the following correct? Explain your answer:

$$\frac{x + 10}{10}$$

$$\frac{x + 10}{10}$$

x

[2]

4. State the non-permissible values of the following expression:

$$\frac{1}{x-2} \times \frac{3}{x-4}$$

[2]

5. Write the product in the simplest form. Include non-permissible values:

$\frac{(5x^2)}{x-3} \times \frac{x-3}{10x}$	$\frac{x+1}{x-2} \times \frac{x^2-x-6}{x-4}$
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[6]

6. Write each quotient in simplest form. Include non-permissible values:

****Remember, division is the same as multiplying the reciprocal.*

$\frac{x+2}{4x-5} \div \frac{2x+4}{4x-5}$	$\frac{x^2-3x-18}{x^2+6x+9} \div \frac{x^2+3x+2}{x^2+8x+15}$
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