**Honors Math 3**

**Unit 4 Review** Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |
| --- | --- |
| 1. Simplify $\frac{\left(6x^{3}y\right)^{2}}{72xy}$
 | 1. Simplify
 |
| 1. $\frac{x^{2}+10x+16}{x^{2}+6x+8}÷\frac{1}{x+4}$

Restrictions: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | 1. $\frac{7n^{2}(n+4)}{(n-3)(n+4)}∙\frac{n-3}{(n+8)(n+6)}$

Restrictions: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 1. $\frac{x+2}{2x+10}-\frac{-2x+8}{x^{2}+x-20}$

Restrictions: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | 1. $\frac{x}{\left(x-2\right)^{2}}+\frac{6}{(x+2)(x-2)}$

Restrictions: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 1. $\frac{x+2}{2x^{2}+13x+20}-\frac{x+3}{2x^{2}+13x+20}$

Restrictions: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | 1. Simplify $\frac{\frac{2x^{2}+7x+3}{x-4}}{\frac{x^{2}+8x+15}{x^{2}-16}}$

Restrictions: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 1. If y varies jointly as x and z and y = 16 when x = 4 and z =2, find y when x = 10 and z = 8.
 | 1. Simplify $\frac{2+\frac{4}{x-3}}{\frac{1}{x+4}-5}$
 |
| 1. Does the table represent direct, inverse, or neither type of variation? Write the equation that fits the model.

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| X | 2 | 3 | 4 | 5 |
| y | 4 | 6 | 8 | 10 |

 | 1. Solve the inequality $\frac{x^{2}-5}{x}>-4$

 Critical values: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Answer: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 1. Solve $\frac{1}{x}+\frac{x}{x+2}=1$
 | 1. $\frac{2}{2+x}=\frac{9}{5x+7}$

  |
| 1. Graph the expression $y=\frac{x^{2}+3x-10}{3x}$ and fill in the following:

Horizontal asymptotes:Vertical asymptotes:Holes:Domain:Range: |