**Rational Functions: Graphing Worksheet 1 Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

Determine the equations of the vertical and horizontal asymptotes (if one exists) and find the intercepts of the graphs:

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| 1. 1.

V. A.: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_H. A.: \_\_\_\_\_\_\_\_\_\_\_ Holes: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_y-int.:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_1. x- int.: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
 | 1. 2.

V. A.: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_H. A.: \_\_\_\_\_\_\_\_\_\_\_ Holes: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_y-int.:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_x- int.: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 1. 3.

V. A.: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_H. A.: \_\_\_\_\_\_\_\_\_\_\_ Holes: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_y-int.:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_1. x- int.: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
 | 1. 4.

V. A.: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_H. A.: \_\_\_\_\_\_\_\_\_\_\_ Holes: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_y-int.:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_x- int.: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 1. 5. $\frac{x^{2}-7x+10}{x^{2}-25}$

V. A.: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_H. A.: \_\_\_\_\_\_\_\_\_\_\_ Holes: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_y-int.:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_x- int.: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | 6. $\frac{3x^{2}-20x-7}{2x^{2}-13x-7}$V. A.: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_H. A.: \_\_\_\_\_\_\_\_\_\_\_ Holes: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_y-int.:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_x- int.: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 7. V. A.: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_H. A.: \_\_\_\_\_\_\_\_\_\_\_ Holes: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_y-int.:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_x- int.: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Domain: Range: | 8. V. A.: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_H. A.: \_\_\_\_\_\_\_\_\_\_\_ Holes: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_y-int.:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_x- int.: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Domain: Range: |

Determine the equations of the vertical and horizontal asymptotes (if one exists). Find the x-intercepts and y-intercepts of the graphs. Sketch the graphs.

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| 9. V. A.: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_H. A.: \_\_\_\_\_\_\_\_\_\_\_ Holes: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_y-int.:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_x- int.: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Domain: Range: |  10. V. A.: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_H. A.: \_\_\_\_\_\_\_\_\_\_\_ Holes: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_y-int.:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_x- int.: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Domain: Rangle: |
| 11. y = $\frac{x^{2}-2x-15}{x^{2}-25}$V. A.: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_H. A.: \_\_\_\_\_\_\_\_\_\_\_ Holes: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_y-int.:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_x- int.: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Domain: Range: |  12. y = V. A.: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_H. A.: \_\_\_\_\_\_\_\_\_\_\_ Holes: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_y-int.:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_x- int.: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Domain: Range: |