**Name:**

**Module 4 Test Form Review**

(Rational Expressions and Functions 4.1 – 4.7)

**Part I**:

*Graph the following rational functions*

|  |  |
| --- | --- |
|  |  |
| *2.* |  |
| *3.* |  |
| *4.* |  |
| *5.* |  |

6. give an example of an odd function and make a sketch.

7. Give an example of an even function and make a sketch.

8. Decide whether x=-3 is a solution to the following function

9. Solve and identify any extraneous solutions.

10. Give two examples of proper rational functions

Simplify the expressions below:

|  |  |  |  |
| --- | --- | --- | --- |
| 11. |  | 12. |  |

Below you have Improper Rational Expressions written as . Use synthetic or long division to rewrite the expressions as

|  |  |  |  |
| --- | --- | --- | --- |
| 13. |  | 14. |  |

**Part IV**: *Features of Functions*

Provide all of the information below for the function:

15. Domain: 16. Range:

17. Increasing: 18. Decreasing:

19. x-intercepts: 20. y-intercept:

21. Asymptotes: 22. End Behavior:

23. When is ? 24. When is ?

25. Use the information above to graph the function. Include the asymptotes as dotted lines.