**Multiple Choice: [2] points each. You must show work/explain EVERY question for full credit.**

 1.) Which relation is a function? **(Don’t forget to explain why!)**

|  |  |  |  |
| --- | --- | --- | --- |
| 1) |  | 3) |  |
| 2) |  | 4) |  |

1.)\_\_\_\_\_\_\_\_\_

 2.) Which statement is not always true? **(Don’t forget to explain why!)**

|  |  |  |  |
| --- | --- | --- | --- |
| 1) | The product of two rational numbers is rational | 3) | The product of two irrational numbers is irrational |
| 2) | The sum of two rational numbers is rational | 4) | The sum of a rational number and an irrational number is irrational |

2.)\_\_\_\_\_\_\_\_\_

 3.) Which equation represents a linear function? **(Don’t forget to explain why!)**

|  |  |  |  |
| --- | --- | --- | --- |
| 1) |  | 3) |  |
| 2) |  | 4) |  |

3.)\_\_\_\_\_\_\_\_\_

4.) What is an equation of the line that passes through the point  and has a slope of ?

|  |  |  |  |
| --- | --- | --- | --- |
| 1) |  | 3) |  |
| 2) |  | 4) |  |

4.)\_\_\_\_\_\_\_\_\_

5.) The graph of  is shown below. Evaluate f(-1).

|  |  |  |  |
| --- | --- | --- | --- |
| 1) | A | 3) | B |
| 2) | C | 4) | D |

5.) \_\_\_\_\_\_\_\_\_

**Short Answer (2) points.**

 6.) Using the function below, determine the domain and range in interval notation.

 Domain: \_\_\_\_\_\_\_\_\_\_\_\_\_ Range: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Short Answer (3) points.**

7.) Solve algebraically for *x and* ***CHECK***: $\frac{2}{3}=\frac{5}{m-3}$

**Short Answer (5) points.**

8.) Graph the solution set for the inequality  on the set of axes below.



b) Determine if the point  is in the solution set. Justify your answer.