Homework 2.1: Features of Functions Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Math 3

1. 
2. Which of the following graphs represent functions? Circle your answers. If it is a function, state the domain and range. If the graph is not included, make a table and graph the function by hand.





1. Graph the following functions, and then find each of the following.
2. **Absolute Value:** $f\left(x\right)=-\left|x\right|+7$ Shape: \_\_\_\_\_

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **x** | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 |
| **y** |  |  |  |  |  |  |  |  |

x-intercept:

y-intercept:

Max or Min:

Vertex:

Interval Increasing:

Interval Decreasing:

1. **Quadratic:** $f\left(x\right)=-(x+1)^{2}-7$ Shape: \_\_\_\_\_

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **x** | -4 | -3 | -2 | -1 | 0 | 1 | 2 |
| **y** |  |  |  |  |  |  |  |

x-intercept:

y-intercept:

Max or Min:

Vertex:

Interval Increasing:

Interval Decreasing:

**For questions 3a-3b:**

* What similarities do you see between the vertex and the equation?
* Do you believe the vertex has any bearing on where the graph is located? Explain your reasoning.
* What part of the equation do you think gives the graph its shape?