$\qquad$ Period: $\qquad$ Date: $\qquad$

## Assignment 3.3 - Features of Function

Find the x and y intercepts from each graph, then find all other key features.
1.


Intervals of Increase:

Intervals of Decrease:

Constant Intervals:
x - intercepts:
y - intercept:

Maximum:
Minimum:
2.

x - intercepts:
y - intercept:
Maximum:

Minimum:

Intervals of Increase:

Intervals of Decrease:

Constant Intervals:
Range:

Domain:

Range:

Use the vertical line test to determine whether the relation is a function, if it is not, identify where it fails the vertical line test.
3.

4.


Graph the relation and tell whether the relation is a function. If it is not a function make sure you show the place that proves it is not a function.
5.

| $\boldsymbol{x}$ | 0 | 1 | 2 | 3 | 4 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $\boldsymbol{y}$ | 3 | 1 | 2 | 4 | 2 |

6. 

| $\boldsymbol{x}$ | -2 | -1 | 0 | 0 | 1 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $\boldsymbol{y}$ | -3 | -1 | 1 | 3 | 5 |




Refresh your memory.
Write equations for the given tables in both recursive and explicit form.

7. | $n$ | $f(n)$ |
| :---: | :---: |
| 1 | 6 |
| 2 | 12 |
| 3 | 24 |

Recursive:

Explicit:
8.

| $n$ | $f(n)$ |
| :---: | :---: |
| 0 | -13 |
| 2 | -5 |
| 3 | -1 |

Recursive:

Explicit:

