

Name: _____

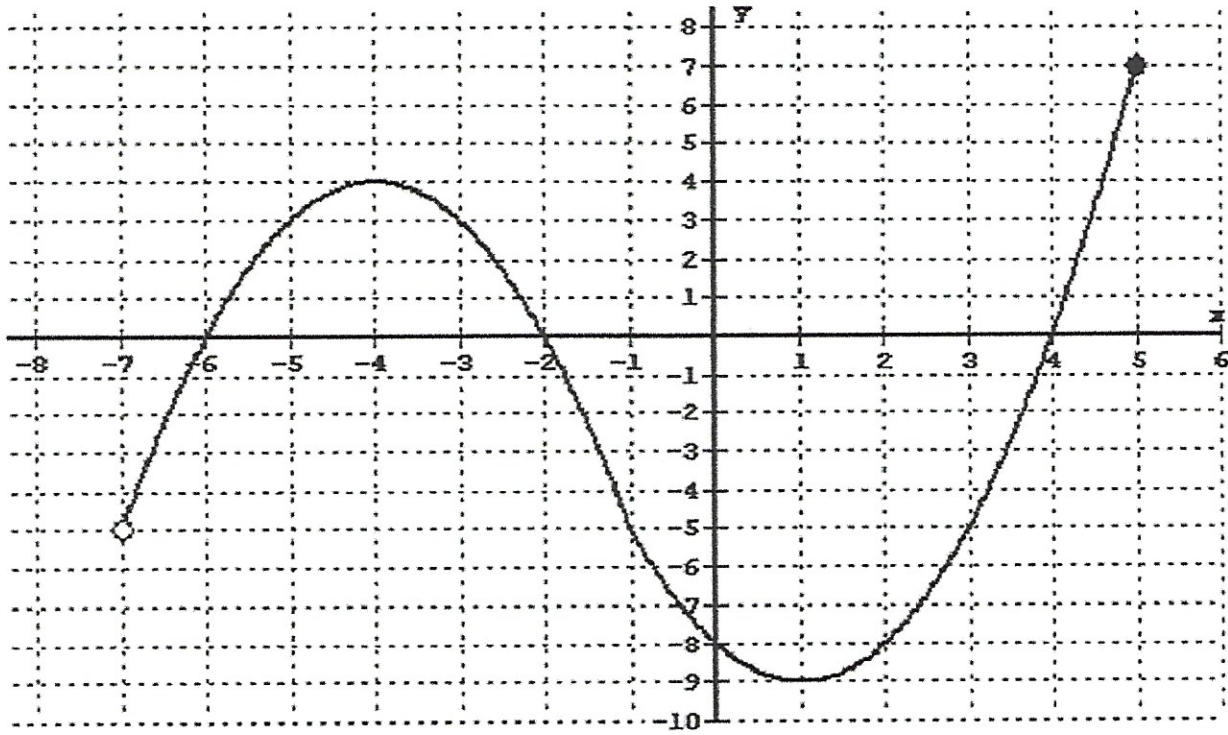
Mrs. Roubos

Date: _____

8A Period _____

Analyzing Functions

Analyze the graph below



$f(-3) =$ _____

$f(1) =$ _____

$f(2) =$ _____

Domain: _____

Range: _____

Zeros: _____

Y-intercept: _____

| | |
|------------------------------|------------------------------|
| Increasing: _____ | Decreasing: _____ |
| $f(x) > 0$ (positive): _____ | $f(x) < 0$ (negative): _____ |
| *Absolute maximum: _____ | *Absolute minimum: _____ |
| **Relative maximum: _____ | **Relative minimum: _____ |

* Absolute Maximum/Minimum-

**Relative Maximum/Minimum-

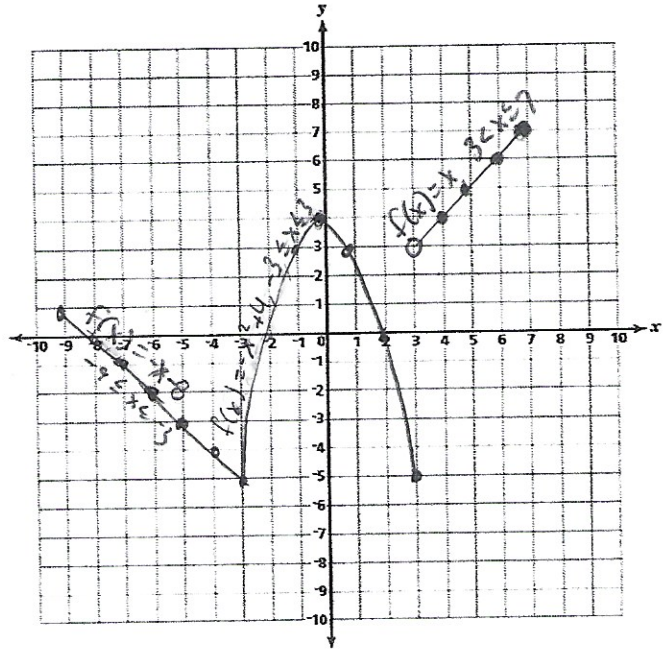


Taking a Closer Look!

Directions: Round answers to the nearest hundredth if needed.

Graph:

$$f(x) = \begin{cases} -x - 8, & -9 \leq x \leq -3 \\ -x^2 + 4, & -3 \leq x \leq 3 \\ x, & 3 < x \leq 7 \end{cases}$$



1. Is it a function?

2. Domain:

3. Range:

4. x -intercept(s):

5. y -intercept(s):

6. Where is the graph increasing?

7. Where is the graph decreasing?

8. Where is $y < 0$?

9. Where is $y > 0$?

10. Where is $y = 0$?

11. Find y when $x = 3$

12. For what x -value(s) is $y = 3$?

13. Maximum value of graph:

14. Minimum value of graph: