

Name: _____ Date: _____

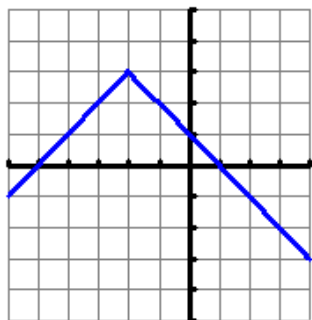
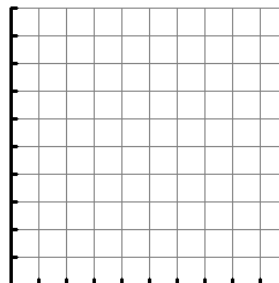
1. Number of hours you study vs. grade on the final

Independent variable: # of hours study

Increasing/Decreasing
increasing

Dependent variable: grade

Continuous/Discontinuous
continuous



2. Function: $f(x) = |x|$ Vertex: $(-2, 3)$

Domain: all real #'s Range: $y \leq 3$

X intercept: $(1, 0)$ & $(-5, 0)$ Y Intercept: $(0, 1)$

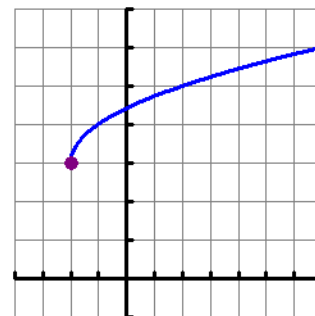
Max: $(-2, 3)$ Min: none

3. Function: $f(x) = \sqrt{x}$

Domain: $x \geq -2$ Range: $y \geq 3$

X intercept: none Y Intercept: $(0, 4.5)$

Max: none Min: $(-2, 3)$



4. Write an equation to match this table.

$f(x) = x^2$

| X | Y |
|---|----|
| 1 | 1 |
| 2 | 4 |
| 3 | 9 |
| 4 | 16 |

Calculate the average rate of change between:

5. $(1, -4)$ $(3, -8)$

-2

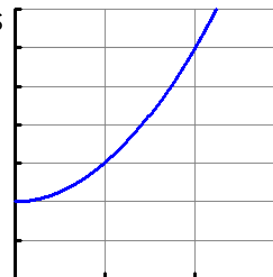
6. 0 and 4 secs

| x | |
|---|----|
| 0 | 1 |
| 1 | 2 |
| 2 | 5 |
| 3 | 10 |

4

7. 1 and 2 secs

3



Calculate the first 5 terms of the sequence. State the domain and range.

8. $a_n = 2n - 5$

- 3, -1, 1, 3, 5
- $d: \{1, 2, 3, 4, 5\}$
- $r: \{-3, -1, 1, 3, 5\}$

9. $a_n = 3n^2 - 1$

- 2, 11, 26, 47, 74
- $d: \{1, 2, 3, 4, 5\}$
- $r: \{2, 11, 26, 47, 74\}$

10. Write a rule for the nth term of the sequence: 3, 6, 9, 12, 15 $a_n = 3n$

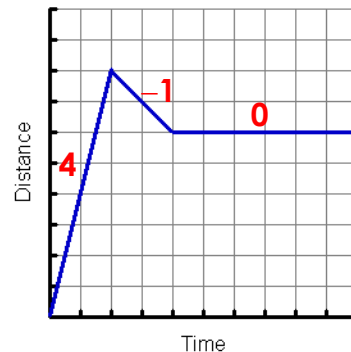
Use the graph to the right:

11. What time interval is it moving the fastest? $0 \text{ to } 2 \rightarrow 0 \leq t \leq 2$

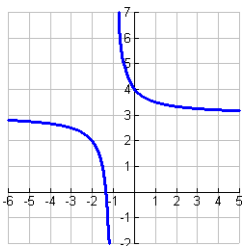
12. What happened from 4 -10 seconds? *didn't move*

13. There are three average rate of changes: -1, 4, 0.
Label the graph with the appropriate average rate of change.

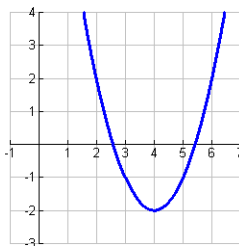
14. At what interval is the graph increasing? $0 \text{ to } 2 \rightarrow 0 \leq t \leq 2$



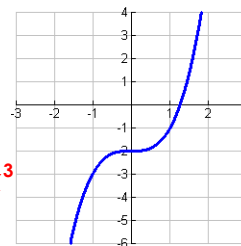
For 15-20 State the type of Graph:



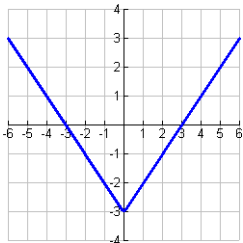
inverse
 $f(x) = \frac{1}{x}$



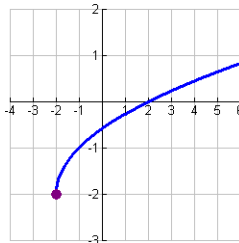
quadratic
 $f(x) = x^2$



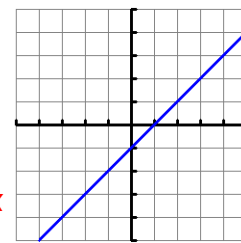
cubic
 $f(x) = x^3$



absolute value
 $f(x) = |x|$



square root
 $f(x) = \sqrt{x}$



linear
 $f(x) = x$

Use the graph to find the following:

21. $f(2) = \underline{4}$

22. $f(8) = \underline{3}$

23. $f(\underline{4}) = 1$

24. $f(\underline{2}) = 4$

