

Wednesday 11/13/19

1. Grab Notes/Calculator
2. Domain/Range Notes
3. Practice
4. Begin Multiplicity Notes

1st block 8:20-9:45

HR 9:51-10:24

2nd block 10:30-11:55

3rd block 12:00-1:55

- A lunch 12:00-12:25
- B lunch 12:30-12:55
- C lunch 1:00-1:25
- D lunch 1:30-1:55

4th block 2:01-3:30

Topic: Domain and Range

Name: _____

What am I learning today?

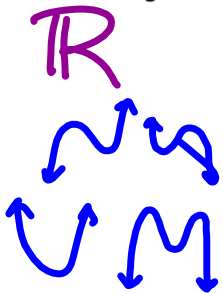
Warm Up
Characteristics

Describe the following characteristics.

1) $f(x) = -2x^2 + 4x^3 - 2x + 1$
 $f(x) = (4x^3 - 2x^2)(2x + 1)$
 $2x^2(2x - 1) - 1(2x - 1)$
 $2x^2 - 1 = 0 \quad 2x - 1 = 0$
 $\sqrt{x^2 = \frac{1}{2}} \quad 2x = 1$
 $x = \pm \sqrt{\frac{1}{2}} \quad x = \frac{1}{2}$

Degree: odd (3) LC: Pos (4)
 End Behavior:
 as $x \rightarrow -\infty, f(x) \rightarrow -\infty$
 as $x \rightarrow \infty, f(x) \rightarrow \infty$
 X-Int(s): $(\sqrt{\frac{1}{2}}, 0), (-\sqrt{\frac{1}{2}}, 0), (\frac{1}{2}, 0)$
 Y-Int: $(0, 1)$

Notes
Domain and Range

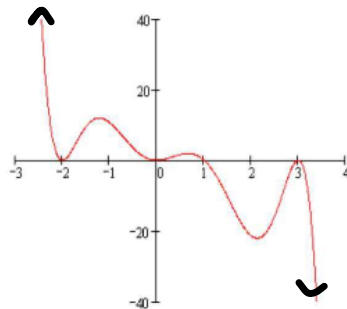


Domain is the set of all x values.
 The domain of these polynomials will always be All Real numbers.
 We will write the domain as an interval, $(-\infty, \infty)$.
Range is the set of all y values.
 The range of these polynomials is determined by the degree.
ODD: The range of an ODD function will always be All Real numbers.
 We will write the range as an interval, $(-\infty, \infty)$.
EVEN: The range of an EVEN function will either start OR stop with a number.
 We will write the range as an interval, $[\#, \infty)$ OR $(-\infty, \#]$.

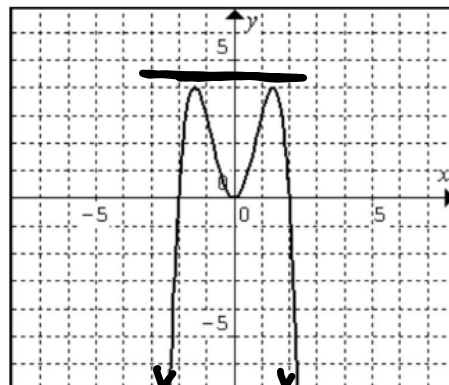
Examples
Find the Domain and Range

Deg: odd

1) Domain: $(-\infty, \infty)$
 Range: $(-\infty, \infty)$



2) Domain: $(-\infty, \infty)$
 Range: $(-\infty, 4]$



Deg: Even.

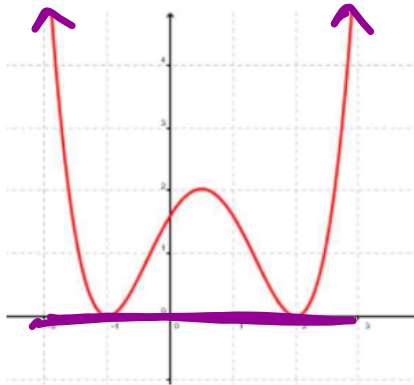
Topic: Domain and Range

Date: _____

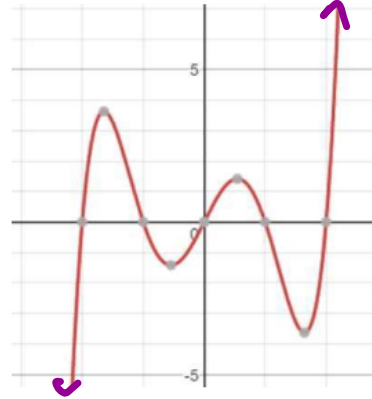
Examples
Find the Domain and Range

Deg.
Even

3) Domain: $(-\infty, \infty)$
Range: $[0, \infty)$



4) Domain: $(-\infty, \infty)$
Range: $(-\infty, \infty)$



Examples
Describe the following characteristics

$(-\infty, \infty)$
 $(-\infty, \#]$



LC: Pos. Degree: Odd End Behavior: $as x \rightarrow -\infty, f(x) \rightarrow -\infty$
 $as x \rightarrow \infty, f(x) \rightarrow \infty$

Domain: $(-\infty, \infty)$ Range: $(-\infty, \infty)$

Y-int: $(0, 0)$ x-int(s): $(-1, 0)$ $(0, 0)$ $(2, 0)$

Rel. Max: $(-0.549, 0.631)$ Rel. Min: $(1.215, -2.113)$

Abs. Max: _____ Abs. Min: _____

Increasing: $(-\infty, -0.549) \cup (1.215, \infty)$

Decreasing: $(-0.549, 1.215)$

#1-3

Summary
Summarize the lesson in your own words

