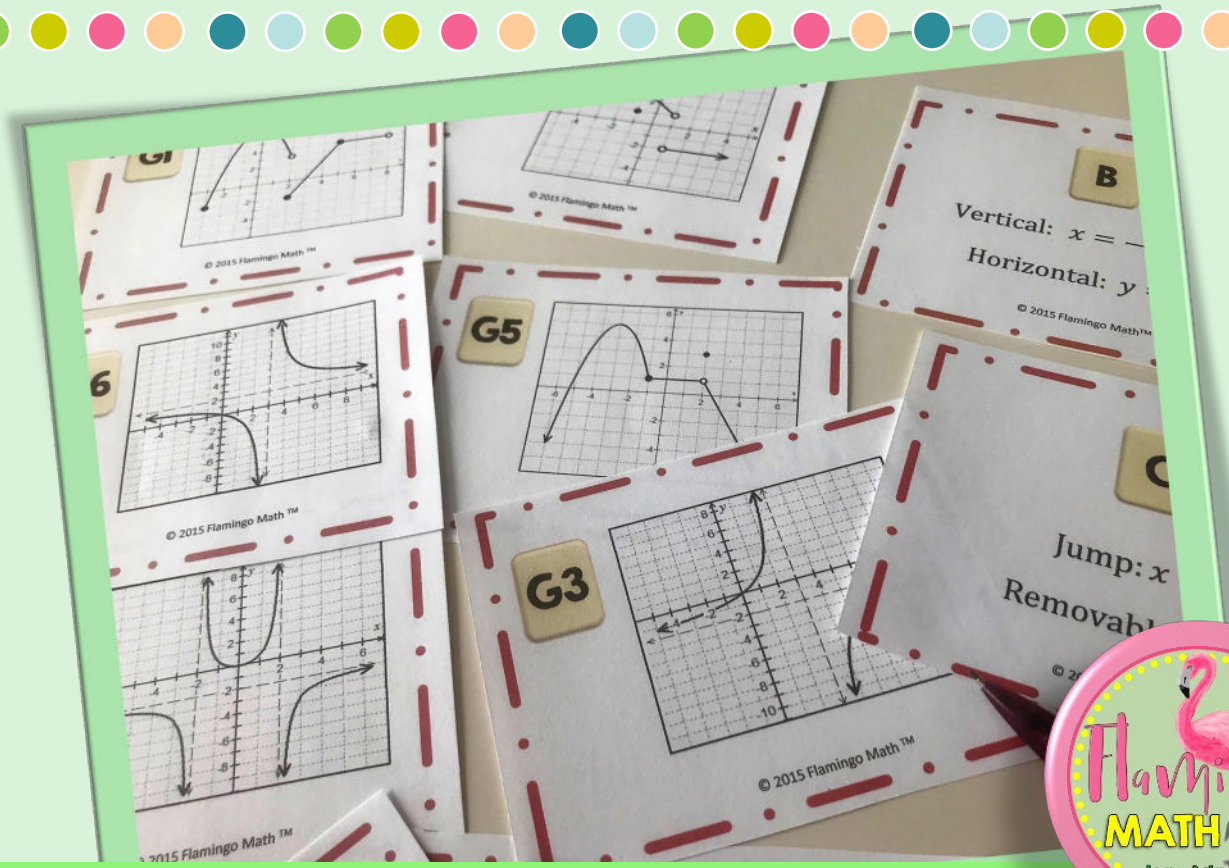
Precalculus Honors

Polynomial Functions Match-Up



Flamingo MATH
Jean Adams

Discovery Activity

Polynomial Functions Match-Up Activity



KEY CONCEPTS/TOPICS:

1. Use key properties of polynomial functions and their related graphs

GENERAL DIRECTIONS:

Students work cooperatively in groups rotating through four stations with 6 cards to match in each station.

Product Overview

This is an activity with 54 task cards meant for ***Polynomial and Rational Functions*** in Precalculus. There are four stations with 6 sets of cards to match in each station.
Every station has a focus topic. These include Domain & Range, Function Behavior (increase and decrease), Types of Discontinuity, Zeros, and End Behavior.

To help with differentiated instruction, you will also find cut and paste activities that can be completed independently as an interactive notebook activity for each station. The questions are the same, so you can choose to use the product as cooperative or independent. All answer keys are included, along with a student recording sheet.

Teaching Suggestions:

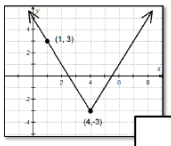
- Use the sort as a group activity or for early finishers.
- Use the activity as a quick review. A student recording sheet is included.
- Have students review independently or with a partner for the end of the unit.
- Use the graph cards only, have students apply characteristics of polynomials and use function vocabulary as a general review or as a class discussion starter.

Please visit my store for more engaging task card activities.

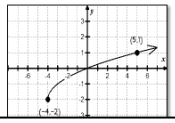
CARD SORT STATIONS

Domain & Range Station Cards

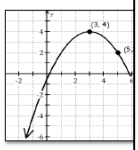
G1



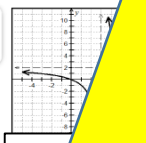
G2



G3



G5



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Domain & Range Station Cards

A

D: $[-4, \infty)$

R: $[-2, \infty)$

B

D: $(-\infty, 3) \cup (3$

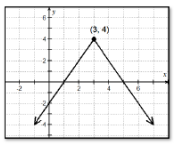
R: $(-\infty, 2) \cup (2$

D

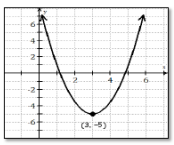
$(-\infty, \infty$

Function Behavior Station Cards

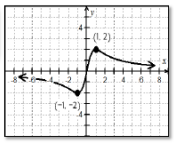
G1



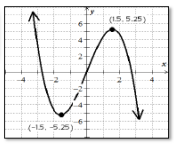
G2



G3



G5



Function Behavior Station Cards

A

Decreases:
$(-\infty, -2) \cup (-2, 3) \cup (3, \infty)$

B

Increases: $(-1.5, 1.5)$

Decreases:
$(-\infty, -1.5) \cup (1.5, \infty)$

C

Increases: $(-\infty, 3)$

D

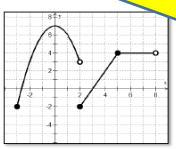
Increases: $(-1, 1)$

ases:
$\cup (1, \infty)$

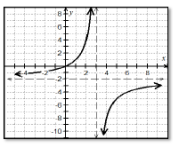
: $(3, \infty)$

: $(-\infty, 3)$

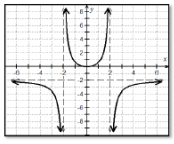
G1



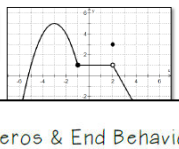
G3



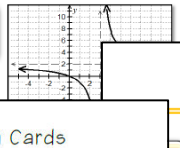
G4



G5



G6



Types of Discontinuity Stations Cards

A

Vertical: $x = 3$

Horizontal: $y = 2$

B

Vertical: $x = -2, x = 2$

Horizontal: $y = -2$

C

Jump: $x = 2$

Removable: $x = 5$

D

Point: $x = 2$

Removable: $x = -1$

E

F

Point: $x = -1$

Zeros & End Behavior Station Cards

A

$\lim_{x \to -\infty} f(x) \to \infty$ $\lim_{x \to \infty} f(x) \to \infty$

Real Zeros: $\{-3, 3\}$

B

$\lim_{x \to -\infty} f(x) \to \infty$ $\lim_{x \to \infty} f(x) \to \infty$

No Real Zeros

C

$\lim_{x \to -\infty} f(x) \to \infty$ $\lim_{x \to \infty} f(x) \to -\infty$

Real Zeros: $\{-4, -1, 1\}$

D

$\lim_{x \to -\infty} f(x) \to -\infty$ $\lim_{x \to \infty} f(x) \to \infty$

Real Zeros: $\{-2, 0, 1\}$

E

$\lim_{x \to -\infty} f(x) \to -\infty$ $\lim_{x \to \infty} f(x) \to \infty$

Real Zeros: $\{-2, 3, 4\}$

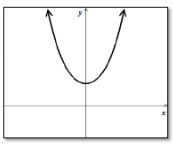
F

$\lim_{x \to -\infty} f(x) \to -\infty$ $\lim_{x \to \infty} f(x) \to -\infty$

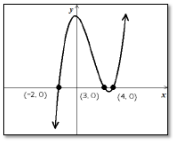
Real Zeros: $\{-2, -1, 2\}$

Zeros & End Behavior Station Cards

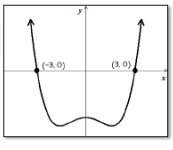
G2



G4



G6



s & End Behavior Station Cards

E2

$f(x) = -x^4 - 2x^3 + 3x^2 + 8x + 4$

E4

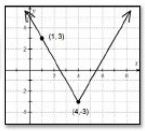
$f(x) = x^4 - 5x^2 - 36$

E6

$f(x) = x^4 + 5x^2 + 4$

Domain & Range Task Cards

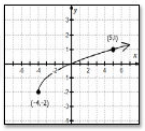
G1



D:

R:

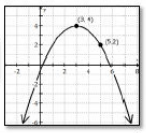
G2



D:

R:

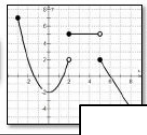
G3



D:

R:

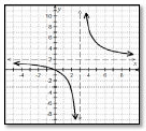
G4



D:

R:

G5



D:

R:

G6



D:

R:

$[-3, 8)$

$(-\infty, -2) \cup (-2, 2) \cup (2, \infty)$

$[-4, \infty)$

$(-\infty, \infty)$

$(-\infty, 3) \cup (3, \infty)$

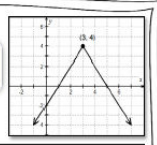
$(-\infty, \infty)$

$(-\infty, -2) \cup (2, \infty)$

$(-4, \infty)$

Function Behavior Task Cards

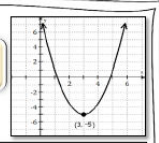
G1



Inc:

Dec:

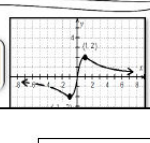
G2



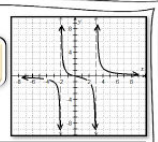
Inc:

Dec:

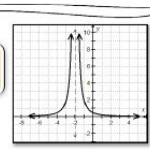
G3



G4



G6



$(-1, 1)$

$(-\infty, -2) \cup (-2, 2) \cup (2, \infty)$

$(-\infty, -2) \cup (-2, 3) \cup (3, \infty)$

$(-\infty, 3)$

$(-\infty, 3) \cup (3, \infty)$

$(-\infty, \infty)$

$(-2, \infty)$

$(-\infty, -1.5) \cup (1.5, \infty)$

$(-\infty, -1) \cup (1, \infty)$

$(3, \infty)$

nowhere

$(-5, \infty)$

$(-\infty, 3)$

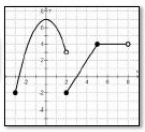
$(-1.5, 1.5)$

$(-\infty, -2)$

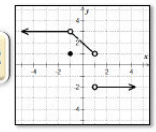
$(3, \infty)$

Types of Discontinuity Task Cards

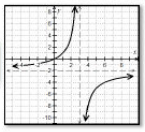
G1



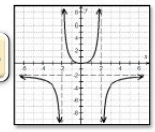
G2



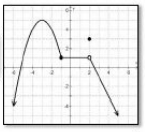
G3



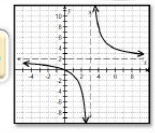
G4



G5



G6



Vertical: $x = 3$

Vertical: $x = 3$

Vertical: $x = -2, x = 2$

Vertical: $x = 1$

Point: $x = 2$

Point: $x = -1$

Infinite: $x = 1$

Jump: $x = 1$

Jump: $x = 2$

Horizontal: $y = -2$

Horizontal: $y = -2$

Horizontal: $y = 2$

Horizontal: $y = 3$

Removable: $x = 1$

Removable: $x = -1$

Removable: $x = 5$

Zeros & End Behavior

E1

$f(x) = x^3 - 5x^2 - 2x + 24$

E2

$f(x) =$

E3

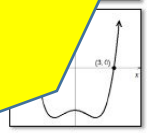
$f(x) = x^5 - 3x^3 + 2x^2$

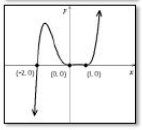
E5

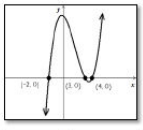
$f(x) = 2x - 8x^2 - 2x^3 + 8$

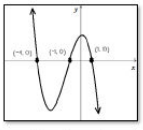
E6

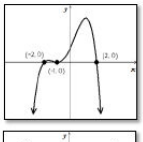
$f(x) = x^4 + 5x^2 + 4$

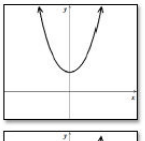


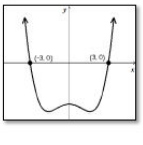


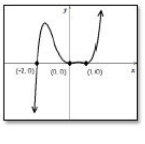












$\lim_{x \to \infty} f(x) \to \infty$

$\lim_{x \to \infty} f(x) \to \infty$

$\lim_{x \to \infty} f(x) \to \infty$

$\lim_{x \to \infty} f(x) \to \infty$

$\lim_{x \to \infty} f(x) \to \infty$

$\lim_{x \to \infty} f(x) \to \infty$

$\lim_{x \to \infty} f(x) \to -\infty$

$\lim_{x \to \infty} f(x) \to \infty$

$\lim_{x \to \infty} f(x) \to -\infty$

$\lim_{x \to \infty} f(x) \to -\infty$

$\lim_{x \to \infty} f(x) \to -\infty$

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$\lim_{x \to -\infty} f(x) \to -\infty$

$\lim_{x \to -\infty} f(x) \to -\infty$

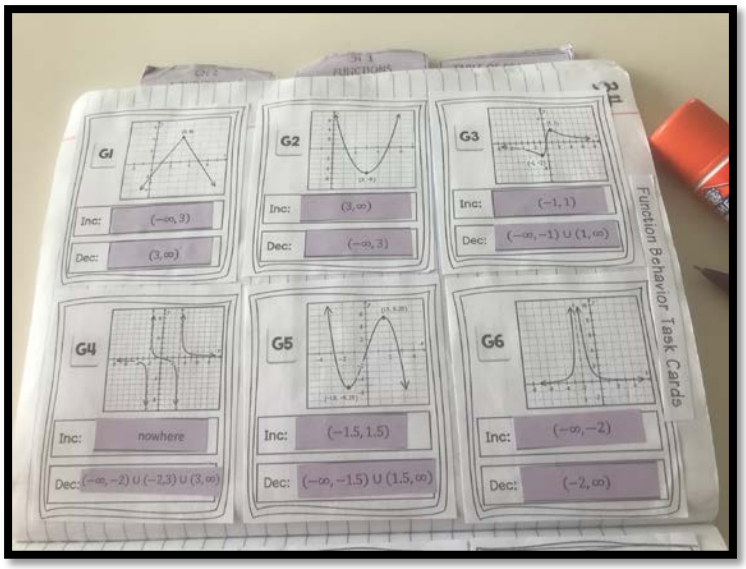
$\lim_{x \to -\infty} f(x) \to -\infty$

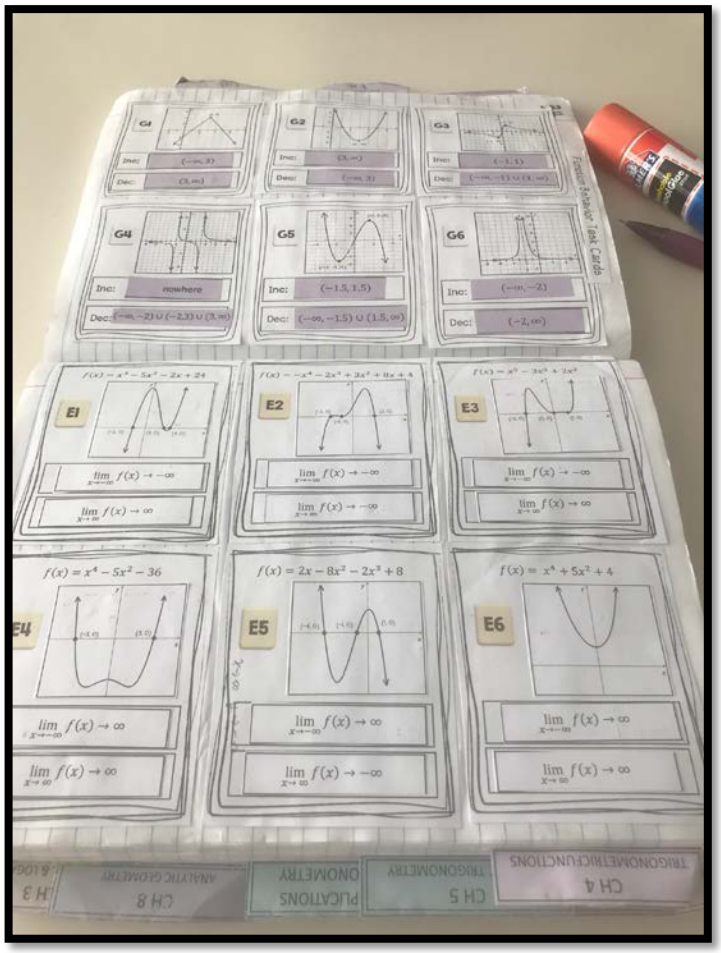
DIFFERENTIATED CUT & PASTE ACTIVITY

POLYNOMIAL FUNCTIONS TASK CARDS for Differentiated Instruction

If you use interactive notebooks, the following pages can be used in student notebooks as a cut and paste exercise. Simply print the sheet(s) for the activity you want your students to complete. Have them cut the questions and paste them into their notebooks. Then, they will cut out the answer choices for each topic and glue them into the appropriate boxes to complete the exercise.

Students can also cut off just the answer strip and leave the remaining sheet intact to turn in the activity for assessment if you like. So many choices!





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