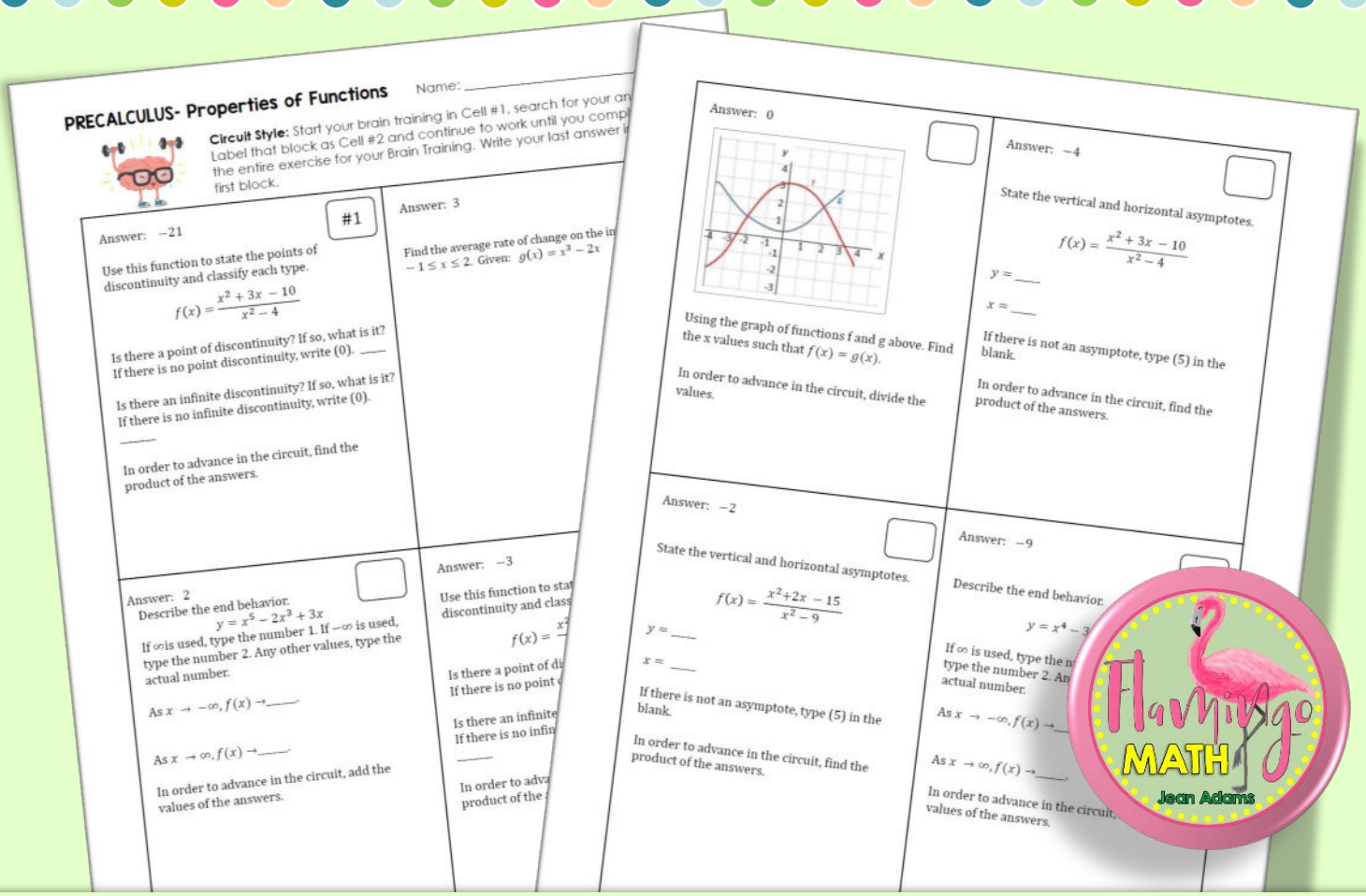
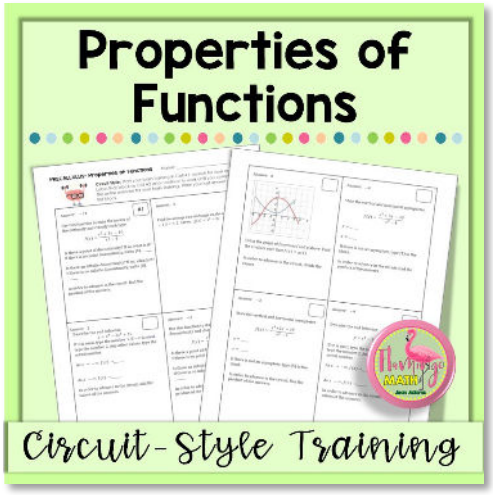
Properties of Functions



Circuit-Style Training

Properties of Functions Circuit



KEY CONCEPTS/TOPICS:

★ Determine continuity of functions
★ Identify asymptotes of functions
★ Find end behavior, use limits notation
★ Find a function's average rate of change
★ Compare two functions using multiple representations

Product Overview

Properties of Functions Circuit-Style Training

This resource is designed to help your students gain proficiency in their ability to use properties of functions in a scavenger-hunt type circuit activity.

This is a self-checking assignment in a "Circuit-style" training. Students start their brain training in Cell #1, then search for the answer. They label that block as Cell #2 and continue to work until they complete the entire exercise for the Brain Training Activity.

There are 12 question stems in the self-checking circuit.

STANDARDS ALIGNMENT:
CCSS: HSF.1F.B.4 ; HSF.1F.C.7.A; HSF.1F.C.7.B
TEKS: .2.D, P.2.E, P.2.F, P.2.G, P.2.I, P.2.J, P.2.K, P.2.L, P.2.M

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PRECALCULUS- Properties of Functions Name: _____



Circuit Style: Start your brain training in Cell #1, search for your answer. Label that block as Cell #2 and continue to work until you complete the entire exercise for your Brain Training. Write your last answer in the first block.

Answer: -21 #1

Use this function to state the points of discontinuity and classify each type.

$$f(x) = \frac{x^2 + 3x - 10}{x^2 - 4}$$

Is there a point of discontinuity? If so, what is it? If there is no point discontinuity, write (0). ____

Is there an infinite discontinuity? If so, what is it? If there is no infinite discontinuity, write (0). _____

In order to advance in the circuit, find the product of the answers.

Answer: 3

Find the average rate of change on the interval on $-1 \le x \le 2$. Given: $g(x) = x^3 - 2x$

Answer: 2

Describe the end behavior.

$$y = x^5 - 2x^3 + 3x$$

If ∞is used, type the number 1. If $-\infty$ is used, type the number 2. A[illegible] type the actual number.

As $x \to -\infty, f(x) \to$[illegible]

As $x \to \infty, f(x) \to$____

In order to advance in th[illegible] add the values of the answers.

Answer: -3

Use this functi[illegible] of discontinuit[illegible] classify each type.

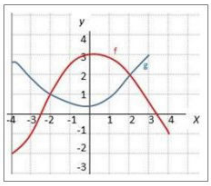
$$f(x) = \frac{x^2 + 3x - 10}{x^2 - 4}$$

Is there a po[illegible] discontinuity? If so, what is it? If there is no [illegible] (0). ____

s there an infinite dis[illegible]nuity? If so, what is it? there is no infinite discontinuity, write (0).

In order to advance in the circuit, find the product of the answers.

Answer: 0



Using the graph of functions f and g above. Find the x values such that $f(x) = g(x)$.

In order to advance in the circuit, divide the values.

Answer: -4

State the vertical and horizontal asymptotes.

$$f(x) = \frac{x^2 + 3x - 10}{x^2 - 4}$$

$y =$ ____

$x =$ ____

If there is not an asymptote, type (5) in the blank.

In order to advance in the circuit, find the product of the answers.

Answ[illegible]

[illegible] asymptotes.

$$f(x) = \frac{+2x - 15}{x^2 - 9}$$

$y =$ ____

$x =$ ____

If there is not an asymptote, type (5) in the blank.

In order to advance in the circuit, find the product of the answers.

A[illegible]: -9

Describe the end behavior.

$$y = x^4 - 3x^2 + 2$$

If ∞ is used, type the number 1. If $-\infty$ is used, type the number 2. Any other values, type the actual number.

As $x \to -\infty, f(x) \to$____.

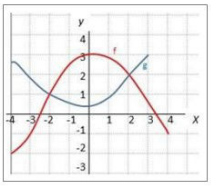
As $x \to \infty, f(x) \to$____.

In order to advance in the circuit, add the values of the answers.

Answer: 1

Find the average rate of change on the interval on $-1 < -x \le 2$. Given $g(x) = 3x - x^3$

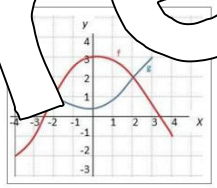
Answer: -1



Using the graph of f and g, find the interval of data such that [illegible] $g(x)$.

Find your answer [illegible]nterval notat[illegible]

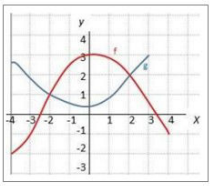
[illegible]) ∪



Find the value of $3[2f(-2) - 3g(3)]$

A[illegible], 2)

Using the graph of f and g. Find the interval of data such that $f(x) < g(x)$.



Write your answer in interval notation.

Preview
Preview
Preview