JEOPARDY!

Math IA
Final Review

MATERIALS for each PAIR

- one mini whiteboard
- one whiteboard marker
- one paper towel

INSTRUCTIONS

1) Ms. Lee picks a student randomly.
2) Selected student chooses a question.
3) Pair discusses question and writes <u>FINAL WORK & SOLUTION</u> on whiteboard.
4) When Ms. Lee calls “TIME,” all pairs raise their whiteboards.
5) Pairs with the correct answer earn points.
6) All students jot down any necessary notes in their Math Comp Book.

HOW TO NOT LOSE POINTS...

- Follow instructions!
- Ask for hints ONLY when your pair absolutely needs one. Hints cost $50.
- Use the whiteboards and markers only for the game and nothing else.
- Follow your partner roles.

PARTNER ROLES

- **Writer:** Writes on the whiteboard.
- **Resource Manager:** Looks through the Math Comp Book for assistance. Uses the calculator when needed.
- You and are your partner must take turns alternating the two roles.

JEOPARDY BOARD

Function Families	Linear Inequalities	Linear Functions	Linear Graphs	Sequences
$100	$100	$100	$100	$100
$200	$200	$200	$200	$200
$300	$300	$300	$300	$300
$400	$400	$400	$400	$400
$500	$500	$500	$500	$500

Function Families - $100

What is the difference between a **discrete** and a **continuous** graph?

Click to see answer

Function Families - $100

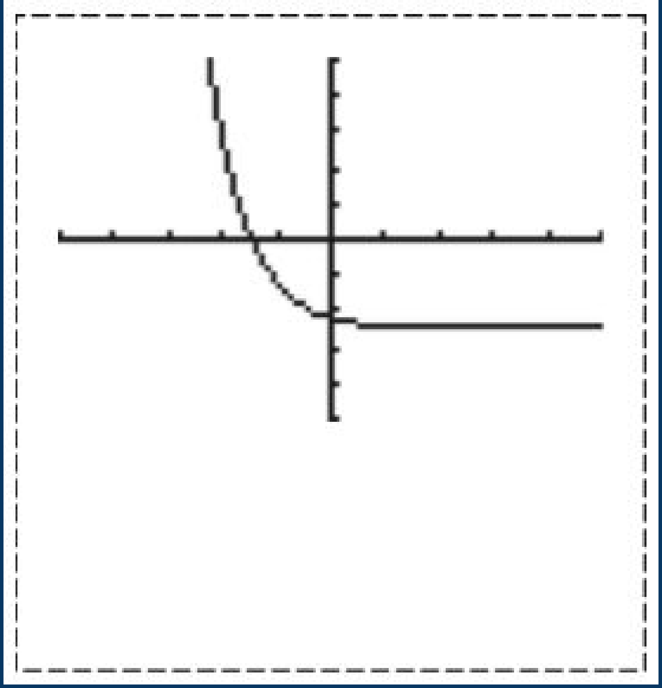
Discrete graphs are made up of isolated points

Continuous graphs are made up of infinitely many points that are connected by a line

Click to return to Jeopardy Board

Function Families - $200

Does this graph represent a **function** or a **non-function**? How do you know?



Click to see answer

Function Families - $200

The graph represents a **function**. Every input (x) has a unique output (y).

Click to return to Jeopardy Board

Function Families - $300

How are **linear** functions and **linear absolute value** functions similar?
How are they different?

Click to see answer

Function Families - $300

Linear	Linear Absolute Value
straight lines	straight lines
increase/decreases over entire domain	absolute minimum / maximum

Click to return to Jeopardy Board

Function Families - $400

How are **exponential** functions and **quadratic** functions <u>similar</u>?
How are they <u>different</u>?

Click to see answer

Function Families - $400

Exponential	Quadratic
curved lines	curved lines
increase/decreases over entire domain	absolute minimum / maximum

Click to return to Jeopardy Board

Function Families - $500

To which **function family** does each equation belong?

a. $f(x) = 3^x - 2$
b. $f(x) = 3x - 2$
c. $f(x) = 3x^2 - 2$
d. $f(x) = |3x| - 2$

Click to see answer

Function Families - $500

a. $f(x) = 3^x - 2$ exponential
b. $f(x) = 3x - 2$ linear
c. $f(x) = 3x^2 - 2$ quadratic
d. $f(x) = |3x| - 2$ linear abs value

Click to return to Jeopardy Board

Linear Inequalities - $100

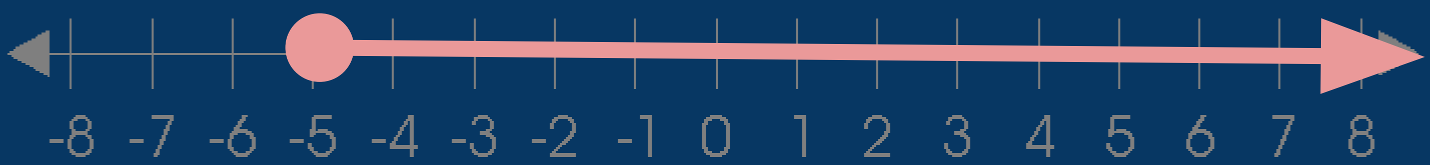
Solve and graph

$14 \geq 9 - x$

Click to see answer

Linear Inequalities - $100

$x > -5$



Click to return to Jeopardy Board

Linear Inequalities - $200

What is the difference between the solution sets of

$x \geq 3$ and $x < -2$

and

$x \geq 3$ or $x < -2$?

Click to see answer

Linear Inequalities - $200

$x \geq 3$ and $x < -2$

no solution

$x \geq 3$ or $x < -2$

disjunction

Click to return to Jeopardy Board

Linear Inequalities - $300

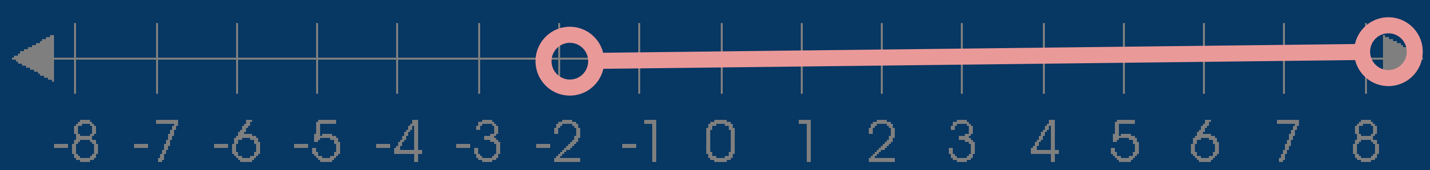
Solve and graph

$-6 < 3x < 24$

Click to see answer

Linear Inequalities - $300

$$-2 < x < 8$$



Click to return to Jeopardy Board

Linear Inequalities - $400

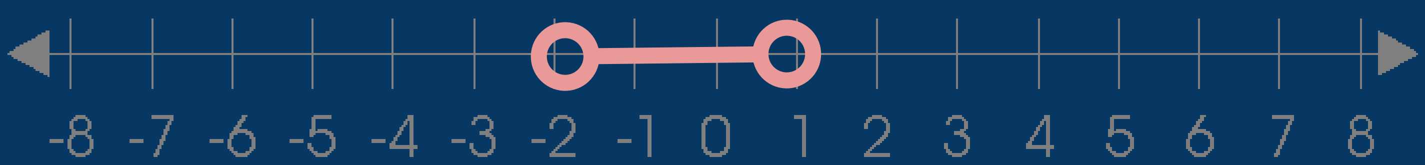
Solve and graph

$x + 2 < 3$ and $-2x < 4$

Click to see answer

Linear Inequalities - $400

$$-2 < x < 1$$



Click to return to Jeopardy Board

Linear Inequalities - $500

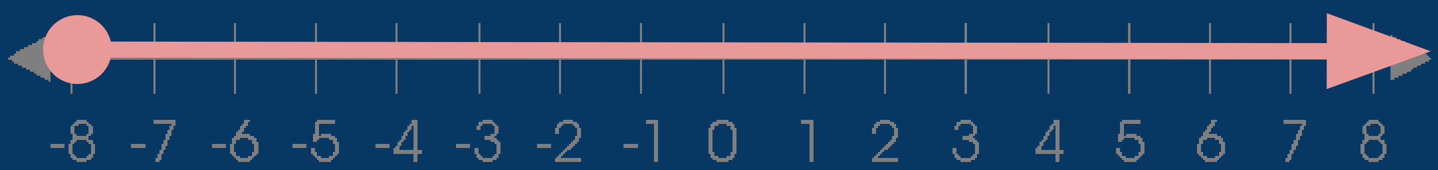
Solve and graph

$-\frac{3}{4}x \le 6$

Click to see answer

Linear Inequalities - $500

$x \geq -8$



Click to return to Jeopardy Board

Linear Functions - $100

What is the difference between **slope** and **unit rate of change**?

Click to see answer

Linear Functions - $100

slope: rate of change

unit rate of change: rate of change <u>per unit</u>

Click to return to Jeopardy Board

Linear Functions - $200

ASB is selling VISA sweaters for $25 each. Write an **equation** to determine the amount of money ASB earns from its sweatshirt sales.

Click to see answer

Linear Functions - $200

$y = 25x$

Click to return to Jeopardy Board

Linear Functions - $300

What is the **value** of

$f(x) = 7.45x + 33.7$

at $x = -4.3$?

Click to see answer

Linear Functions - $300

$f(-4.3) = 1.665$

Click to return to Jeopardy Board

Linear Functions - $400

Determine
the **unit rate of change**
between
(-5,8) and (15, -4)

Click to see answer

Linear Functions - $400

-0.6

Click to return to Jeopardy Board

Linear Functions - $500

Describe the **behavior** for each function?

a. f(x) = -5
b. f(x) = 5x
c. f(x) = -5x
d. f(x) = 5

constant
increasing
decreasing

Click to see answer

Linear Functions - $500

a. $f(x) = -5$ constant
b. $f(x) = 5x$ increasing
c. $f(x) = -5x$ decreasing
d. $f(x) = 5$ constant

Click to return to Jeopardy Board

Linear Graphs - $100

Find the x-intercept of

$2x - 5y = 10$

Click to see answer

Linear Graphs - $100

(5, 0)

Click to return to Jeopardy Board

Linear Graphs - $200

Find the y-intercept of

$2x - 5y = 10$

Click to see answer

Linear Graphs - $200

(0, -2)

Click to return to Jeopardy Board

Linear Graphs - $300

Identify the slope and y-intercept of $y = 3x - 5$

Click to see answer

Linear Graphs - $300

slope = 3

y-intercept = (0, -5)

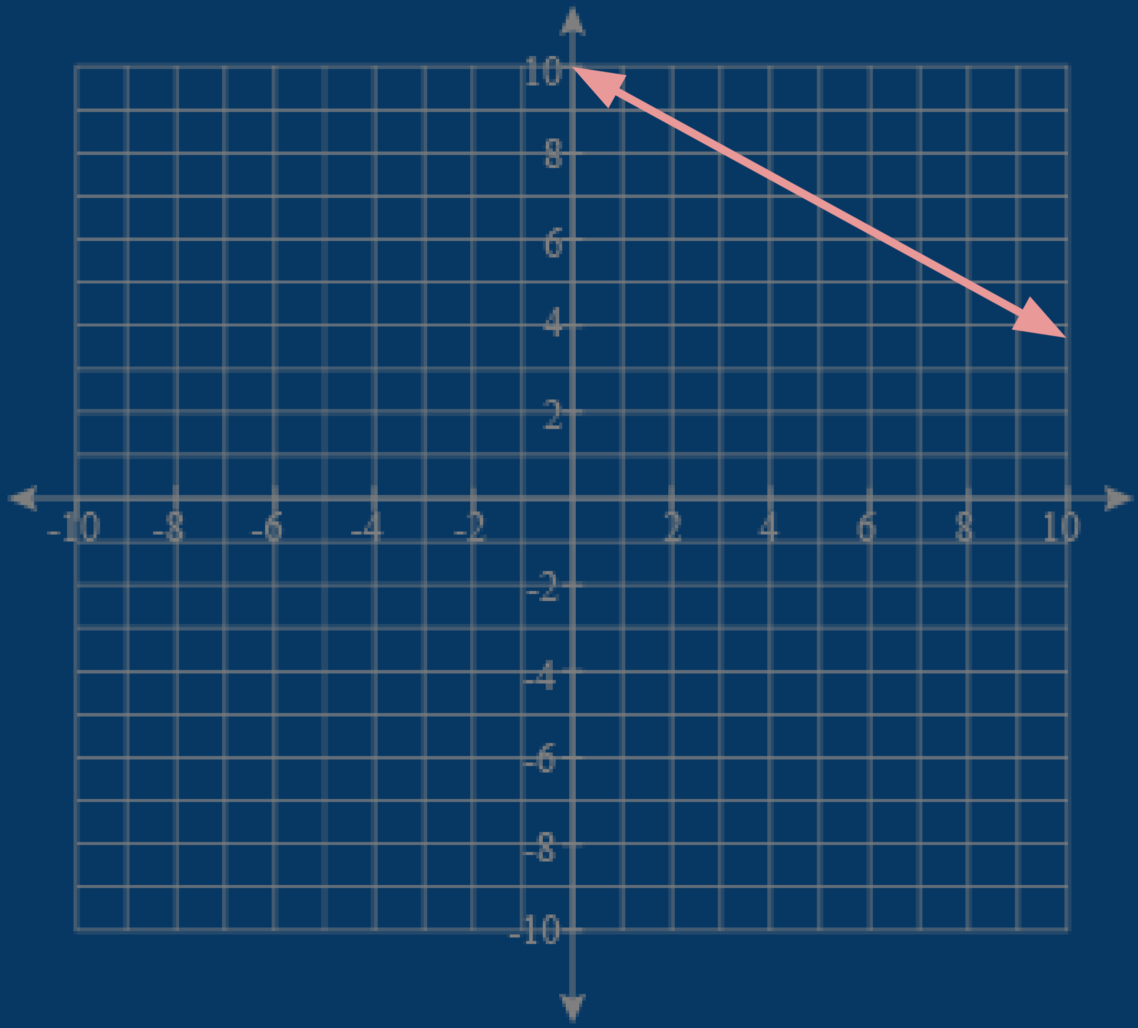
Click to return to Jeopardy Board

Linear Graphs - $400

Graph $y = -\frac{2}{3}x + 10$

Click to see answer

Linear Graphs - $400



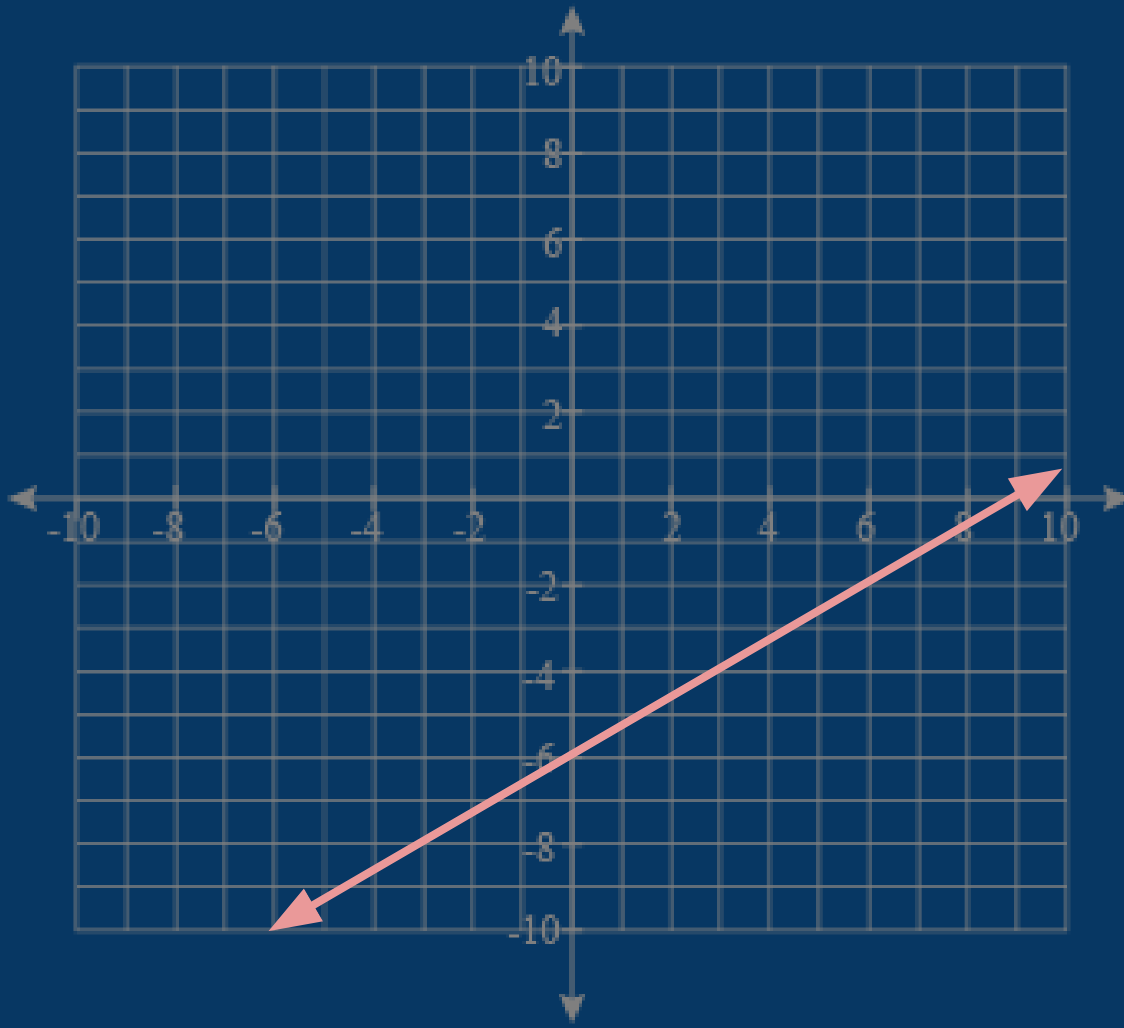
Click to return to Jeopardy Board

Linear Graphs - $500

Graph $2x - 3y = 18$

Click to see answer

Linear Graphs - $500



Click to return to Jeopardy Board

Sequences - $100

TRUE or FALSE:

You can write the formula of a geometric sequence using DIVISION.

Click to see answer

Sequences - $100

FALSE…

dividing a # ⟷ multiplying by the #'s reciprocal

Click to return to Jeopardy Board

Sequences - $200

Write the explicit & recursive formula for the sequence

-7, -4, -1, 2, …

Click to see answer

Sequences - $200

explicit: $a_n = -7 + 3(n-1)$

recursive: $a_n = a_{n-1} + 3$

Click to return to Jeopardy Board

Sequences - $300

Find the **37th term** of the sequence

$a_n = 4 - 5(n-1)$

Click to see answer

Sequences - $300

$$a_{37} = -176$$

Click to return to Jeopardy Board

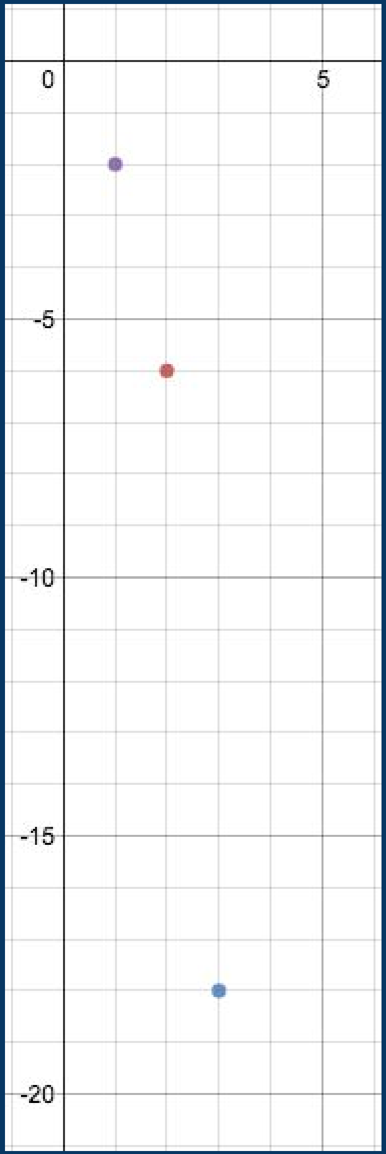
Sequences - $400

Graph the sequence represented by

$g_n = -2 \cdot 3\text{^}(n-1)$

Click to see answer

Sequences - $400



$g_n = -2 \cdot 3^{(n-1)}$

Click to return to Jeopardy Board

Sequences - $500

Write the explicit & recursive formula for the sequence

64, 32, 16, 8, 4 …

Click to see answer

Sequences - $500

explicit: $g_n = 64 \cdot \frac{1}{2}$^(n-1)

recursive: $g_n = g_{n-1} \cdot \frac{1}{2}$

Click to return to Jeopardy Board