

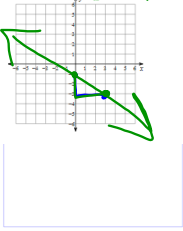
February 4, 2019, Monday y = mx + b

Write the slope-intercept form of the equation of each line.

1) $3x + 7y = -21$ 2) $y - 2x = -1$

Sketch the graph of each line.

3) $y = -\frac{2}{3}x - 1$ $m = -\frac{2}{3}$
 $b = -1$



1) $3x + 7y = -21$
 $-7y = -3x - 21$
 $y = \frac{-3x - 21}{-7}$
 $y = \frac{3x}{7} + \frac{21}{7}$
 $y = \frac{3x}{7} + 3$

2) $y - 2x = -1$
 $y + 2x = -1$
 $y = -2x - 1$

Feb 1-10:34 AM

$\leq \Rightarrow$ Shade the \odot
 $< >$ do not shade the \circ
 * If dividing or multiplying by a negative, reverse the inequality.

Graphing 1-Variable Inequalities & Linear Inequalities HW

Solve each inequality and graph its solution.

1) $x + (-9) \geq -20$
 $x - 9 \geq -20$
 $x \geq -20 + 9$
 $x \geq -11$

2) $x + (-10) \geq -31$
 $x - 10 \geq -31$
 $x \geq -31 + 10$
 $x \geq -21$

3) $4(-6 + a) > 40$
 $-24 + 4a > 40$
 $4a > 40 + 24$
 $4a > 64$
 $a > \frac{64}{4}$
 $a > 16$

4) $-33 < -2x + 1$
 $-33 - 1 < -2x$
 $-34 < -2x$
 $17 < x$
 $x > 17$

5) $-153 < -3a + 9$
 $-153 - 9 < -3a$
 $-162 < -3a$
 $54 > a$
 $a < 54$

6) $4 < 6a + 10$
 $4 - 10 < 6a$
 $-6 < 6a$
 $-1 < a$
 $a > -1$

7) $7 < 2x + 1$
 $7 - 1 < 2x$
 $6 < 2x$
 $3 < x$
 $x > 3$

8) $-6 < 2a - a$
 $-6 < a$
 $a > -6$

9) $-15 < -6 + 25 + x < -50$
 $-15 < 19 + x < -50$
 $-34 < x < -69$

Feb 1-10:33 AM

Graphing Linear Inequalities

- Solve for y! Make sure the equation is in Slope-intercept form.
- Graph using slope and y-intercept.
- Solid or dashed line?
- Shade above or below?

**Vertical Lines will be shaded to the right or left
 ** When the sign in front of the Y is negative, the direction of the inequality changes!

Solid Line
 $\geq \leq$

Dashed Line
 $> <$

Shade above
 $\geq >$

Shade below
 $\leq <$

Graph: $x > 3$ (dashed)
 Graph: $y \leq 3$ (solid)

Graph: $y < -\frac{1}{3}x + 2$ (dashed)
 $m = -\frac{1}{3}, b = 2$

Graph: $y \geq \frac{2}{3}x + 12$ (solid)
 $m = \frac{2}{3}, b = 12$

Feb 1-8:56 AM

Graphing Linear Inequalities

Sketch the graph of each linear inequality.

1) $y \geq -2x - 2$ $m = -2, b = -2$

2) $y \leq -2/3x + 8$ $m = -\frac{2}{3}, b = 8$

3) $y < 5x - 5$ $m = 5, b = -5$

4) $y > 1/3x + 1$ $m = \frac{1}{3}, b = 1$

5) $y > -2/3x - 2$ $m = -\frac{2}{3}, b = -2$

6) $y \leq x + 3$ $m = 1, b = 3$

Feb 1-9:10 AM

Kuta Software - Infinite Algebra 1

Graphing Linear Inequalities

Sketch the graph of each linear inequality.

1) $y \geq -3x + 4$

2) $y \leq \frac{3}{5}x - 5$

3) $y > -x - 5$

4) $y > -4$

5) $y > 2x - 5$

6) $y \geq \frac{7}{4}x + 2$

Feb 1-9:11 AM

Pick 2 from the front...
 pick 2 from the back...
 work individually or
 with a partner...

7) $x < -5$

8) $y \leq \frac{4}{3}x - 4$

9) $3x - 2y < 10$

10) $5x - 3y < -15$

11) $y > 4$

12) $x - y > 2$

Feb 1-9:12 AM

Literacy Activity _____ Name _____ ID: 1
 Applications of Linear Systems _____ Date _____ Period _____

1) Haug and Rob each improved their yards by planting daylilies and ornamental grass. They bought their supplies from the same store. Haug spent \$120 on 12 daylilies and 12 bunches of ornamental grass. Rob spent \$60 on 8 daylilies and 6 bunches of ornamental grass. Find the cost of one daylily and the cost of one bunch of ornamental grass.

2) The senior classes at High School A and High School B planned separate trips to New York City. The senior class at High School A rented and filled 2 vans and 12 buses with 672 students. High School B rented and filled 12 vans and 5 buses with 414 students. Every van had the same number of students in it as did the buses. How many students can a van carry? How many students can a bus carry?

3) The school that Emily goes to is selling tickets to a play. On the first day of ticket sales the school sold 9 senior citizen tickets and 6 student tickets for a total of \$102. The school took in \$72 on the second day by selling 4 senior citizen tickets and 6 student tickets. What is the price each of one senior citizen ticket and one student ticket?

4) Imani's school is selling tickets to the annual talent show. On the first day of ticket sales the school sold 12 senior citizen tickets and 4 child tickets for a total of \$36. The school took in \$110 on the second day by selling 11 senior citizen tickets and 11 child tickets. What is the price each of one senior citizen ticket and one child ticket?

Feb 1-9:14 AM

Literacy Activity _____ Name _____ ID: 1
 Applications of Linear Systems _____ Date _____ Period _____

1) Haug and Rob each improved their yards by planting daylilies and ornamental grass. They bought their supplies from the same store. Haug spent \$120 on 12 daylilies and 12 bunches of ornamental grass. Rob spent \$60 on 8 daylilies and 6 bunches of ornamental grass. Find the cost of one daylily and the cost of one bunch of ornamental grass.
 daylily: \$3, bunch of ornamental grass: \$7

2) The senior classes at High School A and High School B planned separate trips to New York City. The senior class at High School A rented and filled 2 vans and 12 buses with 672 students. High School B rented and filled 12 vans and 5 buses with 414 students. Every van had the same number of students in it as did the buses. How many students can a van carry? How many students can a bus carry?
 Van: 12, Bus: 54

3) The school that Emily goes to is selling tickets to a play. On the first day of ticket sales the school sold 9 senior citizen tickets and 6 student tickets for a total of \$102. The school took in \$72 on the second day by selling 4 senior citizen tickets and 6 student tickets. What is the price each of one senior citizen ticket and one student ticket?
 senior citizen ticket: \$6, student ticket: \$8

4) Imani's school is selling tickets to the annual talent show. On the first day of ticket sales the school sold 12 senior citizen tickets and 4 child tickets for a total of \$36. The school took in \$110 on the second day by selling 11 senior citizen tickets and 11 child tickets. What is the price each of one senior citizen ticket and one child ticket?
 senior citizen ticket: \$7, child ticket: \$3

Feb 1-9:14 AM

Solve using the TI-36 X-Pro

1. _____
 2. _____
 3. _____
 4. _____

5) $x + 3y = -6$
 $2x + y = 3$

6) $5x + 4y = 16$
 $3x - 4y = 16$

7) $2x + 5y = -9$
 $y = -2x + 3$

8) $y = 3x + 14$
 $x - y = -2$

9) $y = -2x - 1$
 $y = \frac{1}{2}x + 2$

10) $y = -\frac{1}{3}x + 4$
 $y = -\frac{1}{3}x - 2$

Feb 1-9:14 AM

Solve using the TI-36 X-Pro

1. _____
 2. _____
 3. _____
 4. _____

5) $x + 3y = -6$
 $2x + y = 3$
 (5, -3)

6) $5x + 4y = 16$
 $3x - 4y = 16$
 (4, -1)

7) $2x + 5y = -9$
 $y = -2x + 3$
 (5, -3)

8) $y = 3x + 14$
 $x - y = -2$
 (-4, 2)

9) $y = -2x - 1$
 $y = \frac{1}{2}x + 2$
 (-2, 3)

10) $y = -\frac{1}{3}x + 4$
 $y = -\frac{1}{3}x - 2$
 (5, -3)

Feb 1-9:15 AM

February 7, 2019, Thursday

Solve the literal equation for Z: $6w - y = Zz$

Solve the literal equation for W: $6w - y = Zz$

...test

Feb 1-9:15 AM

Algebra 1: Spiral Unit 1 _____ Name _____ Block _____

Circle one: The number x is irrational. Which statement about $x - 3$ is true? (MGSE1-12.N.R.1.3)

A. $x - 3$ is rational
 B. $x - 3$ is irrational
 C. $x - 3$ can be rational or irrational, depending on the value of x .

Multiply $\sqrt{5} \cdot \sqrt{2}$. Write your answer in simplest form. (MGSE1-12.N.R.1.2)

48 cm = _____ feet (MGSE1-12.N.Q.1)

Circle one: Which measurement is more precise? (MGSE1-12.N.Q.2)

61 cm or 37 mm

How many terms are in the polynomial? $-2x^{11} + 47$ (MGSE1-12.A.1.1)

Subtract polynomials: $(w+4) - (3w+2)$ (MGSE1-12.A.1.1)

In a test, engineers determined that a bicycle can travel at a top speed of 20 feet per second. What is the top speed the bicycle can travel in miles per hour? (1 mile = 5,280 feet) (N.Q.1.B)

A. 0.04 mph B. 0.23 mph C. 13.6 mph D. 105,600 mph

The width of a rectangle is 6 units less than its length x . Which expression shows the width of the rectangle? (A.SSE.1b)

A. $x - 6$ B. $6 - x$ C. $x + 6$ D. $6x$

9. Which expression is equivalent to $\sqrt{32} - \sqrt{8}$? (N.AN.2)

A. $2\sqrt{2}$ B. $6\sqrt{2}$ C. $2\sqrt{6}$ D. $2\sqrt{10}$

10. What is the result of $(-6x + 7) + (9x - 11)$? (A.APR.1)

A. $25x + 8$ B. $13x + 6$ C. $19x$ D. $25x + 6$

Jan 31-11:28 AM

February 8, 2019, Friday

Highly missed from UZATest

Jan 31-11:27 AM

Algebra 1 - UZB Day 1, 2/9/2018 Functions and Relations NOTES

Terms to know:

- Relation: Any set of _____ that has an _____
- Function: A _____ such that every single _____ has exactly _____ output.
- Domain: _____
- Range: _____

How do I determine if a relation is a function?

- Each input must have _____ output.
- Look at the graph...The vertical line test: **No** vertical line can pass through _____ points on the graph.

Here are 2 examples of functions and the 3rd is NOT a function:

1. Input the number of seconds after the starting gun in a race to get an output of the number of meters the runner has covered.




Number of Seconds (input)	1	4	7	10
Meters Covered (output)	5	20	35	50
2. $y = x - 6$, where x is the place holder for the input and y is the place holder for the output.

Function: $y = x - 6$					
x (input)	1	3	0	7	18
y (output)	-5	-3	-6	1	12
3. The rule about only **one** output each time is crucial and must not be violated.

Not a Function				
input	3	2	0	3
output	4	1	2	3

Why is this not a function?

Now try these: Are these relations functions?

1. $\{(3,2), (4,3), (5,4), (6,5)\}$
2. 
3. 
4. 

Jan 31-11:29 AM

Function Notation:

- Function notation is _____, it is pronounced _____
- $f(x)$ is a fancy way of writing _____ in an _____
 - Example: $f(x) = 2x + 4$ is the same as $y = 2x + 4$

Function Notation	x-y Notation
$f(x) = 5x + 2$	
	$y = -3x - 7$







Evaluating Functions:

8. Given $f(x) = 2x + 3$, find $f(-2)$.
9. Given $f(x) = 2x + 3$, find $f(x) = 9$.
10. Given $f(x) = 3x + 4$, find $f(2)$.
11. Given $f(x) = -2(x - 5)$, find $f(x) = -20$.

Jan 31-11:33 AM

Algebra 1 - UZB Day 2, 2/9/2018 Function & Function Notation HW Name: _____

Decide whether the graph represents y as a function of x .

1. 
2. 
3. 
4. 
5. 
6. 

Decide whether the relation is a function.

7.

Input	Output
1	7
3	-7
5	8
2	-8
8.

Input	Output
3	2
5	4
7	6
9.

Input	Output
0	-6
2	-4
4	-2
6	0

Evaluate the function for the given values.

10. $f(x) = 2x - 5$, $f(x) = -15$
11. $h(x) = -6x + 2$, $h(x) = -20$
12. $g(x) = 2.4x$, $g(x) = 12$

Jan 31-11:40 AM

13. $f(x) = 2x^2 - 3$, $f(2)$ 14. $h(x) = x^2 - 4x$, $h(2)$ 15. $f(x) = (x + 2)^2 - 6$, $f(3)$

If $f(x) = 2x - 3$, $g(x) = x^2 - 2$, and $h(x) = x^2 - 3x + 5$, find each of the following:

16. $f(4)$ = _____
17. $h(3)$ = _____
18. $g(-2)$ = _____

Jan 31-11:40 AM

Explore the internet to locate 3 examples of functions & 3 non-examples of functions

Jan 31-11:42 AM

February 7, 2019 Thursday

Define the following vocab:
 Domain, range, slope, end behavior, x-intercept, y-intercept. Include a picture fore each.

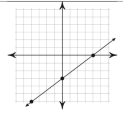
Jan 31-11:42 AM

Algebra 1 - U2B Day 2, 2/9/2018 Characteristics of Linear Functions Notes

Words to know:

- > Domain: _____
- > Range: _____
- > Interval of Increase (_____ slope) & Decrease (_____ slope): _____
- > End Behavior: _____
- > x-intercept(s): _____
- > y-intercept: _____

Examples:

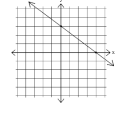


Domain: _____ x-intercept: _____

Range: _____ y-intercept: _____

Interval: _____

End Behavior:
 As $x \rightarrow -\infty$, $f(x) \rightarrow$ _____
 As $x \rightarrow \infty$, $f(x) \rightarrow$ _____

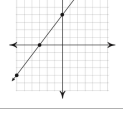


Domain: _____ x-intercept: _____

Range: _____ y-intercept: _____

Interval: _____

End Behavior:
 As $x \rightarrow -\infty$, $f(x) \rightarrow$ _____
 As $x \rightarrow \infty$, $f(x) \rightarrow$ _____



Domain: _____ x-intercept: _____

Range: _____ y-intercept: _____

Interval: _____

End Behavior:
 As $x \rightarrow -\infty$, $f(x) \rightarrow$ _____
 As $x \rightarrow \infty$, $f(x) \rightarrow$ _____

Jan 31-11:44 AM

Average Rate of Change (AROC) Notes

Today's Question: How do we find the rate of change of a function? (DMSLLg)

Rate of Change

- The rate of change is the ratio of the change of one quantity to a change in another quantity.
- Positive ~ _____
- Negative ~ _____
- Which function has a constant rate of change? _____
- Horizontal Lines ~ _____
- Vertical Lines ~ _____

Constant Rate of Change

The slope of a non-vertical line is the ratio of the vertical (change _____) to the horizontal (change _____) between any two points on the line.

$$m = \frac{\text{change in } y}{\text{change in } x} = \frac{\text{rise}}{\text{run}}$$

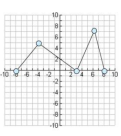
Example 1: Find the slope between (2, 4) and (4, 6).

Example 2: The table shows the amount of water evaporating from a swimming pool on a hot day. Find the rate of change between 2 hours and 6 hours.

Time (hours)	2	6	12
Gallons evaporated	4.5	13.5	27

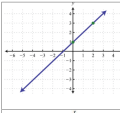
Example 3: Find all rates of change between the points, then determine which has the greatest rate of change?

What is the value?



Jan 31-11:44 AM

Algebra 1 - Day 2, 2/9/2018 Characteristics of Linear Functions HW Name _____




Domain: _____ x-intercept: _____

Range: _____ y-intercept: _____

Interval: _____

End Behavior:
 As $x \rightarrow -\infty$, $f(x) \rightarrow$ _____
 As $x \rightarrow \infty$, $f(x) \rightarrow$ _____




Domain: _____ x-intercept: _____

Range: _____ y-intercept: _____

Interval: _____

End Behavior:
 As $x \rightarrow -\infty$, $f(x) \rightarrow$ _____
 As $x \rightarrow \infty$, $f(x) \rightarrow$ _____

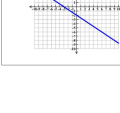


Domain: _____ x-intercept: _____

Range: _____ y-intercept: _____

Interval: _____

End Behavior:
 As $x \rightarrow -\infty$, $f(x) \rightarrow$ _____
 As $x \rightarrow \infty$, $f(x) \rightarrow$ _____



Domain: _____ x-intercept: _____

Range: _____ y-intercept: _____

Interval: _____

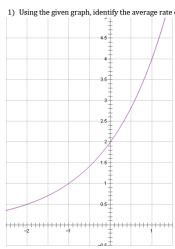
End Behavior:
 As $x \rightarrow -\infty$, $f(x) \rightarrow$ _____
 As $x \rightarrow \infty$, $f(x) \rightarrow$ _____

Jan 31-11:45 AM

Average Rate of Change HW

Directions: Identify the average rate of change for the given intervals.

1) Using the given graph, identify the average rate of change over the given intervals.



- a) $x = -2$ to $x = -1$.
- b) $x = -1$ to $x = 0$.
- c) $x = 0$ to $x = 1$.
- d) $x = -2$ to $x = 1$.

2) Using the given table, identify the average rate of change over the given intervals.

a) $x = -1$ to $x = 1$.	b) $x = 0$ to $x = 4$.
c) $x = 2$ to $x = 3$.	d) $x = -1$ to $x = 4$.

Jan 31-11:45 AM

Draw a linear graph

(switch)

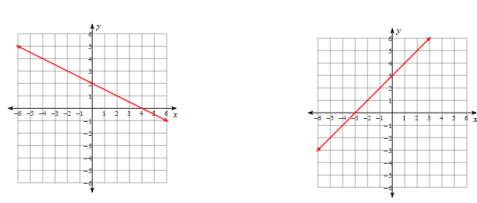
partner identify.

domain
 range
 x-intercept
 y-intercept
 end behavior

Jan 31-11:45 AM

February 8, 2019 Friday

Identify 4 characteristics for each graph.



Jan 31-11:54 AM

Algebra 1 – Day 3, 2/12/2018 Arithmetic Sequences Notes

Arithmetic Sequences are _____ & helps you find _____

The recursive formula is _____ & helps you find _____

The explicit formula is _____ & helps you find _____

Examples: Find the common difference, then write the recursive formula & the explicit formula.

	Common Difference	Recursive Formula	Explicit Formula
27, 31, 35, 39, ...			
4, -3, -10, -17, ...			

Find the first five terms of the arithmetic sequence defined as follows:
 $a_1 = 2.7n + 0.5$

Find the first five terms of the arithmetic sequence defined as follows:
 $a_n = a_{n-1} - 22; a_1 = 18$

You have read 25 pages of a book. You plan to read an additional 10 pages each night.

- List the first five terms of the sequence.
- Write the explicit formula to represent the number of pages you will read after n nights.

You are going on vacation. You have \$105 to bring with you. You expect to spend \$15 each day. You want to have \$30 remaining at the end of the vacation.

- Write an explicit formula to represent this scenario.
- For how many days can you spend \$15 each day?

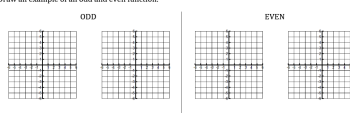
Jan 31-11:58 AM

Even and Odd Functions Notes

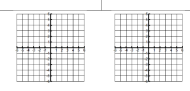
GRAPHICALLY:
 A function is _____ if _____
 A function is _____ if _____

Draw an example of an odd and even function.

ODD **EVEN**



Neither Even nor Odd:



ALGEBRAICALLY
 A function is _____ all _____
 A function is _____ all _____
 A function is _____ all _____

**BE CAREFUL* because -8 is an EVEN EXPONENT, (-8 can be written with a variable -> -8x^0 which makes it an even exponent!)*

Examples:

Even	Odd	Neither

Jan 31-11:58 AM

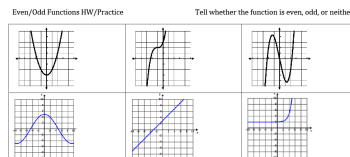
Algebra 1 – Day 3, 2/12/2018 Arithmetic Sequences HW Name _____

- Write the recursive and the explicit formula for the sequence: 4, 7, 10, 13, 16, 19
- What is the common difference for the following sequence: -5, -12, 19, -26
- The first five terms of a sequence are 2, 12, 22, 32, ...
 - What is the recursive formula for the sequence?
 - Write the explicit formula for the sequence.
 - What is the 30th term in the sequence? $a_{30} =$ _____
- You have donated \$100 to a charity. You plan to donate an additional \$15 each month.
 - Write the first five terms of the sequence.
 - Write an explicit formula to represent the sequence.
- An arithmetic sequence is given by the following table. Write the recursive and explicit formula.

n	1	2	3	4	5
a_n	7	10	13	16	19
- An arithmetic sequence is given by the following formula: $a_n = a_{n-1} + 7, a_1 = 2$.
 - Find the first 5 term of the sequence.

Jan 31-11:59 AM

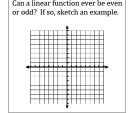
Even/Odd Functions HW/Practice Tell whether the function is even, odd, or neither.



$f(x) = x^2 - x^2$ $f(x) = -x^2 - 2x$ $f(x) = x^2 + 4x + 1$

$f(x) = \frac{1}{2}x^2 + 9$ $f(x) = 5x + 1$ $f(x) = 5$

Can a linear function ever be even or odd? If so, sketch an example.



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