

December 4, 2018 Tuesday

Tech: what is the difference between discrete and continuous graphs? Describe in words and make a pic of each graph!

Dec 4-8:13 AM

Foundations of Algebra Unit 4 - Characteristics of Linear Equations

Name: \_\_\_\_\_ Date: \_\_\_\_\_

**Day 10 - Characteristics of Linear Equations**

**Domain and Range**

- Discrete Graphs: you just **plot the point** the domain and range.
- Continuous Graphs: you use **continuous curve or line**

**Holes**  
 are used when there is an open dot or the number is NOT included on the graph.  
 are used when there is a closed dot or when the number is included on the graph.

**Practice:**

- 1. All real numbers**  
 Range:  $y \geq -6$   
 x values:  $x > 4$  or  $x \leq 5$   
 y values:  $y \geq -6$
- 2. Range:  $y \geq -6$**   
 x values:  $x > 4$  or  $x \leq 5$   
 y values:  $y \geq -6$
- 3.  $x > 4$  or  $x \leq 5$**   
 Range:  $y \geq -6$   
 x values:  $x > 4$  or  $x \leq 5$   
 y values:  $y \geq -6$

Dec 4-9:02 AM

Foundations of Algebra Unit 4 - Characteristics of Linear Equations

Name: \_\_\_\_\_ Date: \_\_\_\_\_

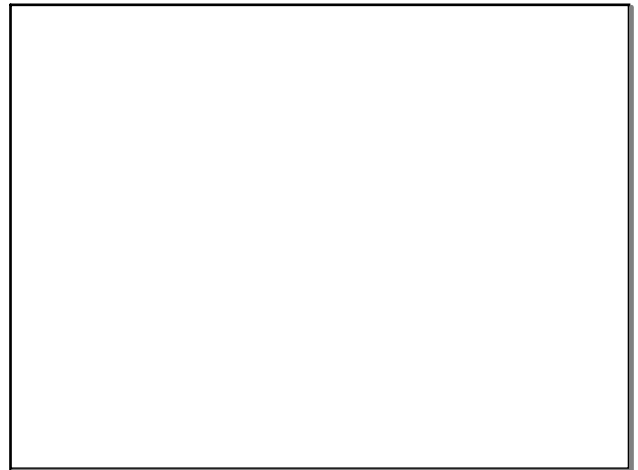
**Intercepts**

- x-intercept: the point at which the line intersects the **x-axis** at  $(x, 0)$ .
- y-intercept: the point at which the line intersects the **y-axis** at  $(0, y)$ .
- zeros** are the same thing as the x-intercepts.

**Practice:**

- Domain:  $[-2, 4]$   
 Range:  $[-4, 2]$   
 x-int:  $(-2, 0), (2, 0)$   
 y-int:  $(0, 0)$
- Domain:  $(-\infty, 4]$   
 Range:  $(-\infty, 0]$   
 x-int:  $(4, 0)$   
 y-int:  $(0, 2), (0, -3)$
- Domain:  $[-2, 0]$   
 Range:  $(0, 11)$   
 x-int:  $(-2, 0)$   
 y-int:  $(0, 11)$

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Dec 4-10:08 AM

Foundations of Algebra Unit 4 - Characteristics of Linear Equations

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Homework

**Day 10 - Characteristics of Linear Equations**

**For each graph find the characteristics.**

- a. domain: \_\_\_\_\_  
 b. range: \_\_\_\_\_  
 c. x-intercept: \_\_\_\_\_  
 d. y-intercept: \_\_\_\_\_  
 e. Increasing or Decreasing? \_\_\_\_\_
- a. domain: \_\_\_\_\_  
 b. range: \_\_\_\_\_  
 c. x-intercept: \_\_\_\_\_  
 d. y-intercept: \_\_\_\_\_  
 e. Increasing or Decreasing? \_\_\_\_\_
- a. domain: \_\_\_\_\_  
 b. range: \_\_\_\_\_  
 c. x-intercept: \_\_\_\_\_  
 d. y-intercept: \_\_\_\_\_  
 e. Increasing or Decreasing? \_\_\_\_\_
- a. domain: \_\_\_\_\_  
 b. range: \_\_\_\_\_  
 c. x-intercept: \_\_\_\_\_  
 d. y-intercept: \_\_\_\_\_  
 e. Increasing or Decreasing? \_\_\_\_\_

Dec 4-9:21 AM

Foundations of Algebra Unit 4 - Characteristics of Linear Equations

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Homework

**Day 10 - Characteristics of Linear Equations**

5. A gear on a machine turns at a rate of 3 revolutions per second. Write the equation, and determine the key features of this function.

Equation: \_\_\_\_\_ Discrete or Continuous: \_\_\_\_\_  
 Domain: \_\_\_\_\_ Range: \_\_\_\_\_  
 Intercepts: \_\_\_\_\_ Increasing or Decreasing: \_\_\_\_\_

6. Create your own linear function: draw the graph, write the equation, and fill in the characteristics.

a. equation: \_\_\_\_\_  
 b. domain: \_\_\_\_\_  
 c. range: \_\_\_\_\_  
 d. x-intercept: \_\_\_\_\_  
 e. y-intercept: \_\_\_\_\_  
 f. increasing or decreasing? \_\_\_\_\_

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