

UNIT OF STUDY

Title: Calculating Slope	Subject/Course: Algebraic Connections	Length: 10 days
Topic: CS 2 unit 4	Grade: 12 th	Designer: Prado
UNIT GOALS AND EXPECTATIONS		
<p>IMPORTANT CONCEPTS/UNDERSTANDINGS:</p> <ul style="list-style-type: none"> ◆ Finding slopes from graphs, standard equations, two points, and y intercept and a point. ◆ Finding slopes and y intercept from an equation ◆ Finding the equation of a line given slope and y intercept, a point and slope, two points, y-intercept and a point, and intercepts. ◆ Using slope as a rate of change 	<p>ESSENTIAL QUESTIONS:</p> <ul style="list-style-type: none"> ◆ What is a slope? ◆ What is a standard equation? ◆ What is the x and y intercept? ◆ How is the coordinates of points written? ◆ How can calculators help find the x and y intercepts and points on a line? 	
<p>STUDENT LEARNING EXPECTATIONS:</p> <p>LF.2.AC.5 Calculate the slope given two points, a graph of a line, and an equation of a line.</p> <p>LF.2.AC.7 Write an equation given two points, a point and y-intercept, an x-intercept and y-intercept, a point and slope, a table of data, and the graph of a line.</p>		
<p>SPECIFIC DECLARATIVE KNOWLEDGE – What I know</p> <ul style="list-style-type: none"> ◆ Vocabulary Words: slope(m), line, graph, points, symmetric property, coefficient, y-intercept(b), x-intercept, equation, standard equation, and distributive property. ◆ How to read a graph and find the coordinates of the points on a graph ◆ Identify an x-intercept and y-intercept ◆ Use slope concept to write the equation of a line 	<p>SPECIFIC PROCEDURAL KNOWLEDGE – What I need to do</p> <ul style="list-style-type: none"> ◆ Represent the points on a graph as coordinates ◆ Find the slopes of lines from graphs and when given two points ◆ Apply the symmetric property, distributive property, and solving for y (y with coefficient) ◆ Determine the slope and y intercept when given an equation ◆ Write an equation when given m and b ◆ Determine the x and y intercepts when looking at a graph ◆ Use a point and slope to write the equation of a line ◆ Find the equation when given two points ◆ Determine the slope when given the y-intercept and a point 	
UNIT ASSESSMENTS		

(Include tasks related to Dimensions 3 and 4 and Bloom's Taxonomy)

Traditional Assessments: Unit 4 Exam Vocabulary Quiz Quizzes	Other Evidence of Learning: Homework Class work Getting Started Exercises
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ACTIVITIES AND LEARNING EXPERIENCES	Resources
Finding slopes of line from graphs and when given two points <ul style="list-style-type: none">◆ S will learn vocabulary using the 4-step process (slope (m), line, graph, points, symmetric property, and coefficient)◆ S will do Getting Started activity sheet◆ T will model finding slopes of lines from a graph◆ S will do in-class worksheet on finding the slope from a graph and a review sheet on symmetric property◆ T will go over worksheet and relate the two worksheets◆ T will model finding the slope of a line when given two points and relate to finding the slope of a graph◆ S will do in-class worksheet on finding the slope of two points and a review sheet on solving for y (y with a coefficient)◆ T will go over worksheet , relate the worksheets to each other, and assign homework	<ul style="list-style-type: none">◆ 4-step vocabulary sheets◆ Getting Started problems◆ Worksheets on finding slopes from a graph, symmetric property, finding the slope of two points, and solving for y
Finding the slope, y-intercept, and y from an equation <ul style="list-style-type: none">◆ S will learn vocabulary: y-intercept (b), equation◆ S will do Getting Started activity sheet◆ T will model finding the slope and y-intercept by just looking at an equation that is already solved for y◆ S will do in-class worksheet on finding the slope(m) and y-intercept(b) from an equation◆ T will go over worksheet◆ T will model how to solve an equation for y (review from earlier), and then have the students find the slope and y-intercept◆ S will do in-class worksheet on solving the equation for y and then find the m and b◆ T will go over the worksheet and assign homework	<ul style="list-style-type: none">◆ Getting Started problems◆ Worksheets on find the slope and y-intercept of an equation and solving an equation for y◆ Smart board
Find the slope of a standard equation and writing the equation when given m and b <ul style="list-style-type: none">◆ S will learn vocabulary: standard equation◆ S will do Getting Started activity sheet◆ T will model finding the slope of a standard equation◆ S will do in-class worksheet on finding the slope of a standard equation◆ T will go over worksheet◆ T will model writing an equation when given m and b◆ S will do in-class worksheet on writing equations when given m and b◆ T will go over worksheet and assign homework	<ul style="list-style-type: none">◆ Getting Started problems◆ Worksheets on find the slope of a standard equation and writing equations given m and b
Finding the x and y-intercept from a graph <ul style="list-style-type: none">◆ S will learn vocabulary: x-intercept and distributive property	

<ul style="list-style-type: none"> ◆ S will do Getting Started activity sheet ◆ T will model finding the x and y-intercept on a graph and how to write the answer as a coordinate ◆ S will do in-class worksheet on finding the intercepts ◆ T will go over worksheet ◆ T will review and relate the distributive property ◆ S will do in-class worksheet on distributive property ◆ T will go over worksheet and assign homework <p>Solving for y using the distributive property and writing the equation of a line given a point and slope</p> <ul style="list-style-type: none"> ◆ S will do Getting Started activity sheet ◆ T will review solving an equation for y and the distributive property, then show how the two can work together ◆ S will do in-class worksheet on solving for y using the distributive property ◆ T will go over worksheet ◆ T will model how to write an equation when only given a point and a slope ◆ S will do in-class worksheet on writing equations using only a point and a slope ◆ T will go over worksheet and assign homework <p>Find the slope and equation when given two points</p> <ul style="list-style-type: none"> ◆ S will do Getting Started activity sheet ◆ T will review finding the slope when given two points and using the proper procedures and notation ◆ S will do in-class worksheet on finding the slope given two points ◆ T will go over worksheet ◆ T will model how to write an equation when given two points ◆ S will do in-class worksheet on writing an equation when given two points ◆ T will go over worksheet and assign homework <p>Find the slope and the equation given the y-intercept and a point</p> <ul style="list-style-type: none"> ◆ S will do Getting Started activity sheet ◆ T will model how to find a slope when given the y-intercept and a point ◆ S will do in-class worksheet on finding the slope when given the y-intercept and a point ◆ T will go over worksheet ◆ T will model how to write the equation of a line given the y-intercept and a point ◆ S will do worksheet on writing equations when given only the y-intercept and a point ◆ T will go over worksheet and assign homework 	<ul style="list-style-type: none"> ◆ Getting Started problems ◆ Worksheets on finding intercepts and distributive property <ul style="list-style-type: none"> ◆ Getting Started problems ◆ Worksheets on solving for y using the distributive property and writing an equation when given a point a slope <ul style="list-style-type: none"> ◆ Getting Started problems ◆ Worksheets on finding the slope when given two points and how to write an equation when given two points <ul style="list-style-type: none"> ◆ Getting Started problems ◆ Worksheets on finding a slope when given the y-intercept and a point and writing equations when given only the y-intercept and a point
Career Connections	
Construction worker, Roofer, Contractor, Home Inspector, Bridge Creator	