Mathematics Class Slides

Bronx Early College Academy

Chris Huson

25 November 2019

6.1 Intro to the coordinate plane and linear functions, 25 November

6.2 Laptop practice - Geogebra graphing functions on coordinate plane, 26 November

6.3 Coordinate geometry practice, 27 November

6.4 Assessment: distance formula, Monday 2 December

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6.5 Laptop practice - Geogebra distance and the Pythagorean theorem, 3 December

6.5 Re-Assessment: distance formula, Tuesday 3 December

6.6 Midpoint formula, Wednesday 4 December

6.7 Midpoint formula, distance quiz, Thursday 5 December

6.8 Tangent introduction, Euclid's Orchard, Friday 6 December

6.9 Regents proofs using analytic geometry, Monday 9 December

GQ: How do we plot lines on the coordinate plane?

CCSS: HSG.GPE Express geometric properties with equations 6.1 Monday 25 Nov

Do Now: Plotting points and lines

1. Modeling geometric situations with an algebraic equation
2. Slope-intercept form of linear equations
3. Dilation of a line centered at the origin

Review exam results
Lesson: Perpendicular and parallel slopes

Homework: Test corrections due tomorrow

GQ: How do we work on the coordinate plane?

CCSS: HSG.GPE Express geometric properties with equations 6.2 Tuesday 26 Nov

Do Now: Deltamath practice

1. Graphing linear equations
2. Perpendicular and parallel slopes
3. Function and algebraic manipulations

10.1 meets in Room 414 first period tomorrow (advisory schedule)

Homework: Complete Deltamath homework section

GQ: How do we plot lines on the coordinate plane?

CCSS: HSG.GPE Express geometric properties with equations 6.3 Wednesday 27 Nov

Do Now: Plotting points and lines

1. Modeling geometric situations with an algebraic equation
2. Slope-intercept form of linear equations
3. Dilation of a line centered at the origin

Review exam results
Lesson: Perpendicular and parallel slopes

Homework: Test corrections due tomorrow

GQ: How do we plot lines on the coordinate plane?

CCSS: HSG.GPE Express geometric properties with equations 6.4 Monday 2 Dec

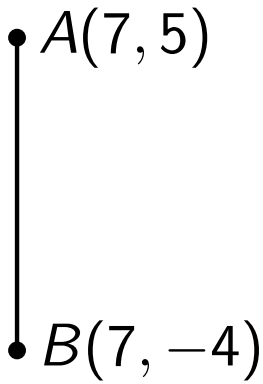
Do Now: Plotting, measuring, and translating on the x-y plane

1. Measure horizontal and vertical distances
2. Measure diagonal distances
3. Parabolas, quadratic functions, & function translation

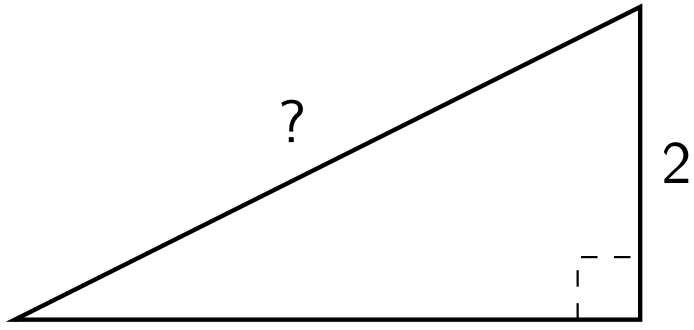
Lesson: the distance formula (Pythagorean theorem)
Review perpendicular and parallel slopes

Homework: Khan Academy distance practice

Assessment: Distance formula (on looseleaf paper)



1. Given $A(7, 5)$ and $B(7, -4)$, find AB.



2.

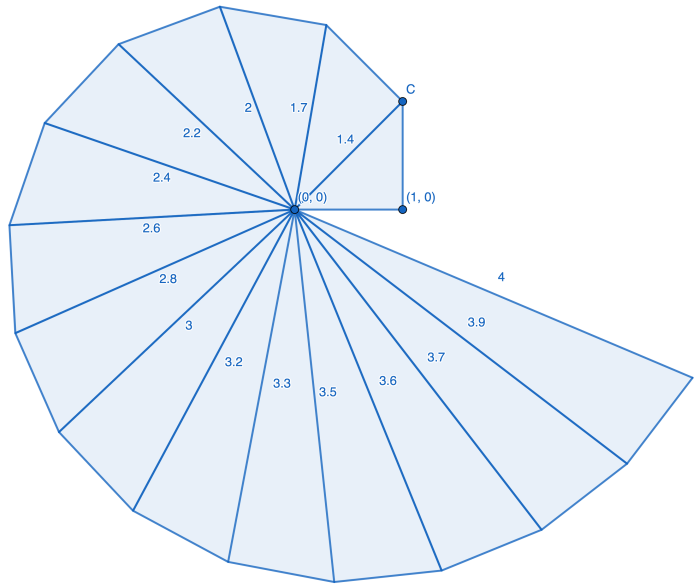
3. What is the length of $\overline{CD}$ if $C(1, -2)$ and $D(7, 6)$?

GQ: How do we calculate distance given coordinates?

CCSS: HSG.GPE Express geometric properties with equations 6.5 Tuesday 3 Dec

Do Now Assessment

Project paper: Use paper & pencil or MS Word & Geogebra



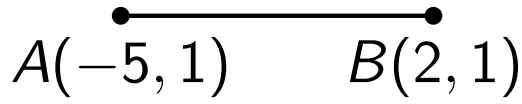
1. Radical spiral
2. Briefly explain how the spiral is constructed in the text.

Lesson: Drawing perpendicular figures in Geogebra

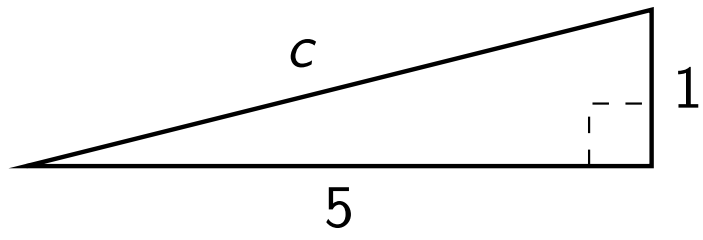
Homework: Complete the project paper (due 10:00pm)

Assessment: Distance formula (on looseleaf paper)

1. Find AB, $A(-5, 1)$ and $B(2, 1)$.



2. Find c.



3. What is the length of $\overline{CD}$ if $C(-1, 15)$ and $D(4, 3)$?

   Use $d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$

GQ: How do we find the midpoint of a line segment?

CCSS: HSG.GPE Express geometric properties with equations 6.6 Wednesday 4 Dec

Do Now pre-quiz: Distance, slope, Pythagorean formula

1. Bisecting horizontal and vertical distances
2. Measure diagonal distances
3. Right triangle situations

Lesson: Midpoint formula (directed segment & averaging forms)
Review area and volume

Homework: Khan Academy distance practice

GQ: How do we find the midpoint of a line segment?

CCSS: HSG.GPE Express geometric properties with equations 6.7 Thursday 5 Dec

Do Now Quiz: Distance, slope, Pythagorean formula

1. Bisecting horizontal and vertical distances
2. Measure diagonal distances
3. Right triangle situations

Lesson: the midpoint formula practice
Review rounding and decimal places

Homework: Handout midpoint practice

GQ: How do we map angles to slope?

CCSS: HSG.GPE Express geometric properties with equations 6.8 Friday 6 Dec

Do Now: Euclid's Orchard

1. Calculate the slope of triangles in the 1st quadrant
2. Measure their vertex angle measures in degrees
3. Make a table of the function mapping angle measure to slope

Lesson: Introduction to the tangent function
Homework: Pre-test (exam Wednesday)

GQ: How do we prove properties of polygons on the plane?

CCSS: HSG.GPE Express geometric properties with equations 6.9 Monday 9 Dec

Do Now: Applying the tangent function

1. Calculate the tangent of an angle using a calculator
2. Calculate the tangent of an angle given a slope, or $\triangle$ side lengths
3. Solving for the a triangle's sides given a vertex angle measure
4. Inverse function on the calculator $tan^{-1}(x)$

Lesson: Proofs using slope, distance, and midpoint formulas
Practice with slope and the distance formula (based on assessment)

Homework: Pre-test (exam Wednesday)