Mathematics Class Slides

Bronx Early College Academy

Christopher J. Huson PhD

21-25 September 2020

1.1 1st day of Geometry, Segment addition, 21 Sept

1.2 Drawing and construction tools, 22 Sept

1.3 Equilateral triangle construction, 9 Sept

1.5 Angle terminology, 11 Sept

1.6 Angle terminology, quiz review, 12 Sept

1.7 Exam: Algebra, triangle construction, measurement, 13 Sept

GQ: How do we define the basic elements of geometry?

CCSS: HSG.CO.A.1 Know precise geometric definitions 1.1 Monday 21 Sept

Welcome back to school

Do Now: Algebra skills check

1. Remote learning attendance
2. Take out notebooks (or blank paper)
3. Complete Do Now on Google Classroom

Supply list: Composition book, folder, looseleaf, pencils & pens, compass and ruler, calculator
Lesson: Points, line segments, length; Segment addition postulate
Homework: Begin Khan Academy unit (due Friday)

Take class notes in a composition book

Use this notebook format (required)

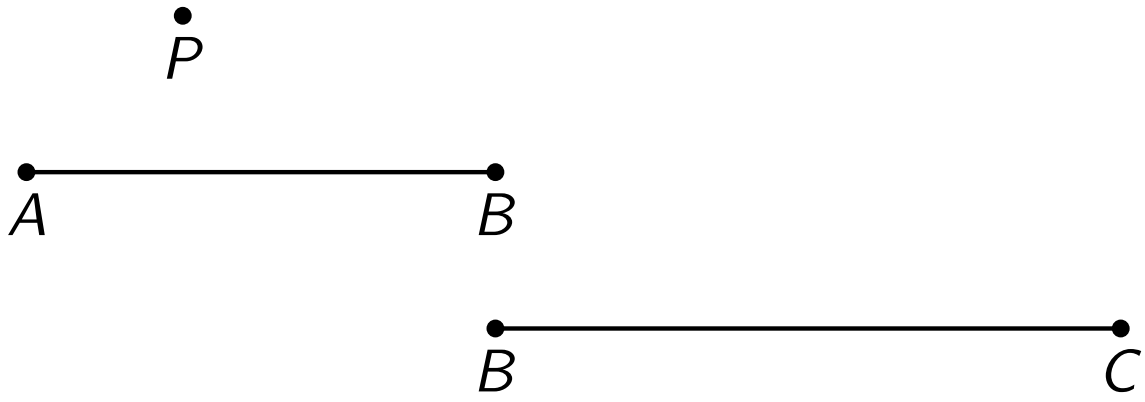
1. In the front, write your name, my contact info, your passwords
2. Each page in the top left corner:
   First+Last Name
   21 September 2020
   Segment addition postulate
3. Copy definitions using your own words
4. Write down example diagrams and problems

Point: a location, a dot, has no size; label with capital letter, P

Line segment: two points and all the points between them; label with *end points* and a bar, $\overline{AB}$

Example: Points and line segments

Shown points P, A, B, C, line segments $\overline{AB}$, $\overline{BC}$

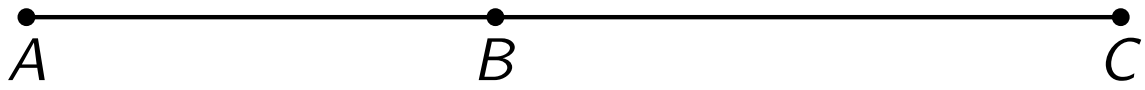


Given $AB = 3$, $BC = 4$.

Notation: the length of a line segment is written as the two end points without a bar over them, AB.

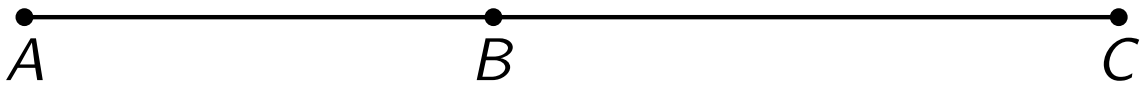
How do we add lengths? Segment addition postulate

Given $\overline{ABC}$, $AB = 3x - 7$, $BC = x + 5$, $AC = 14$. Find AB.



How do we add lengths? Segment addition postulate

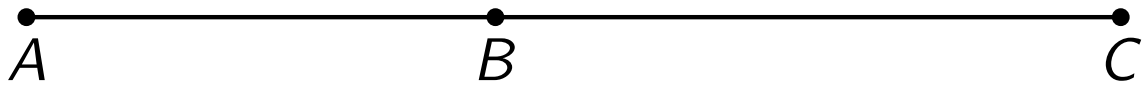
Given $\overline{ABC}$, $AB = 3x - 7$, $BC = x + 5$, $AC = 14$. Find AB.



1. Sketch and label the situation
2. Write a geometric equation
3. Substitute algebraic values
4. Solve for the unknown
5. Answer the question
6. Check your answer

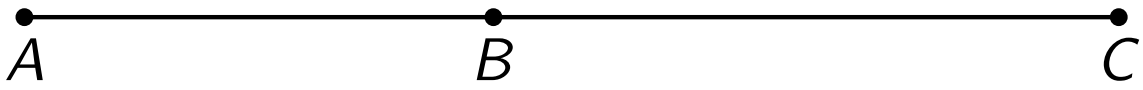
How do we add lengths? Segment addition postulate

Given $\overline{ABC}$, $AB = 3x - 7$, $BC = x + 5$, $AC = 14$. Find AB.



How do we add lengths? Segment addition postulate

Given $\overline{ABC}$, $AB = 3x - 7$, $BC = x + 5$, $AC = 14$. Find AB.



1. Sketch and label the situation
2. Write a geometric equation
3. Substitute algebraic values
4. Solve for the unknown
5. Answer the question
6. Check your answer

GQ: How do we construct geometric figures?

CCSS: HSG.CO.D.12 Congruence, Make geometric constructions 1.2 Monday 22 Sept

Do Now: Copy definitions into notebook

Lesson: Definitions: point, line, plane, ray, segment, end point, colinear, coplanar, congruent, distance or length, angle, vertex

Homework review
Practice compass use: "flower of life"
Calculator deposits $20

Homework: Problem set 1-2 Vocabulary and terminology

GQ: How do we construct an equilateral triangle?

CCSS: HSG.CO.D.13 Construct an equilateral triangle 1.3 Monday 9 Sept

Do Now: $x = 0$ vs $y = 0$. Copy into notebook, do problems

1. $x = 0$, starting point, y-intercept, b, initial condition, $f(0)$
2. $y = 0$, x-intercept, the solution, the zeros, $f(x) = 0$

Lesson: Circle notation; "Sketch", "draw", "construct"; "Given"

Euclid's first construction

1. Steps in the construction
2. Logic: Why does it work?
3. MLA headings: First+Last Name / Dr. Huson
   10.x Geometry / 9 September 2019
4. Assessment criteria: precision, correct & complete, elegance

Homework: Measurement, terminology, and algebra practice
Due: Compass, ruler, protractor, calculator

GQ: How do we measure angles?

CCSS: HSG.CO.A.1 Know precise geometric definitions 1.5 Wednesday 11 Sept

Do Now: How big is a football field?

1. On lined scrap paper, calculate the area of a football field
2. 100 yards long, $53\frac{1}{3}$ yards wide
3. What is the area of the end zone? (10 yards deep)
4. Spicy: What is the area in square feet?

Lesson: Measuring angles, making angles of a given measure
Angle terminology: legs, vertex, interior, exterior, right, acute, obtuse; adjacent, opposite or vertical angles

Homework: Pretest handout, Test Friday

GQ: How do we measure angles?

CCSS: HSG.CO.A.1 Know precise geometric definitions 1.6 Thursday 12 Sept

Do Now handout

1. Measuring angles
2. Protractor use
3. Making angles of a given measure

Angle terminology: legs, vertex, interior, exterior, right, acute, obtuse
Review for test tomorrow
Homework: Study for test

GQ: How do we get started with geometry?

CCSS: HSG.CO.A.1 Know precise geometric definitions 1.7 Friday 13 Sept

Test: Introduction to geometry

1. Terminology and notation
2. Equilateral triangle construction
3. Measuring length and angles
4. Algebra review

Homework: Angle measure algebra problems