Mathematics Class Slides

Bronx Early College Academy

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21-25 September 2020

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

1.2 Segment addition, midpoint, 23 Sept

1.3 Equilateral triangle construction, 25, 29 Sept

1.5 Angle terminology, 11 Sept

1.6 Angle terminology, quiz review, 12 Sept

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

CCSS: HSG.CO.A.1 Know precise geometric definitions 1.1 Monday 21-22 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)

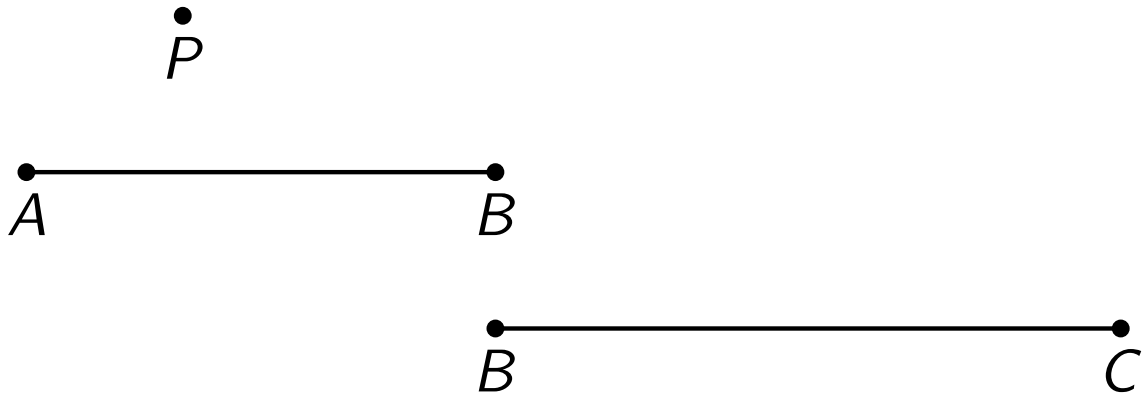
1. In the front, write your name, my contact info, your passwords
2. Each page in the top left corner:
   First+Last Name
   21 September 2020
   1.1 Segment addition postulate
3. Copy definitions using your own words
4. Write down example diagrams and problems

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

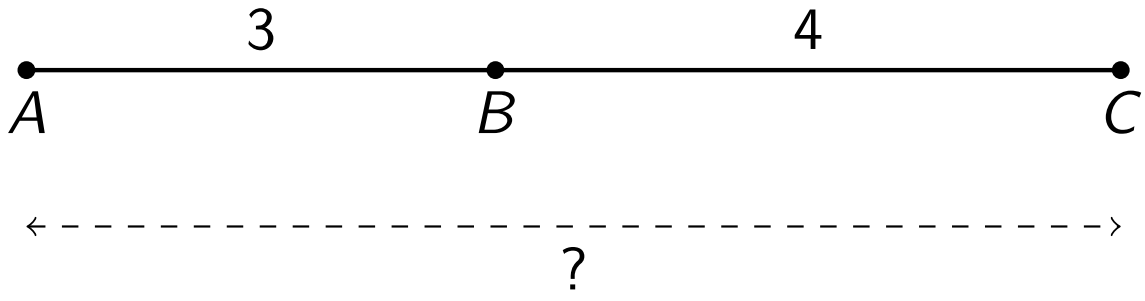
Notation: the length of a line segment is written as the two end points without a bar over them, AB.

Example: Points and line segments

Segment Addition Postulate

Shown *collinear* points A, B, C. Given $AB = 3$, $BC = 4$.

Find AC.



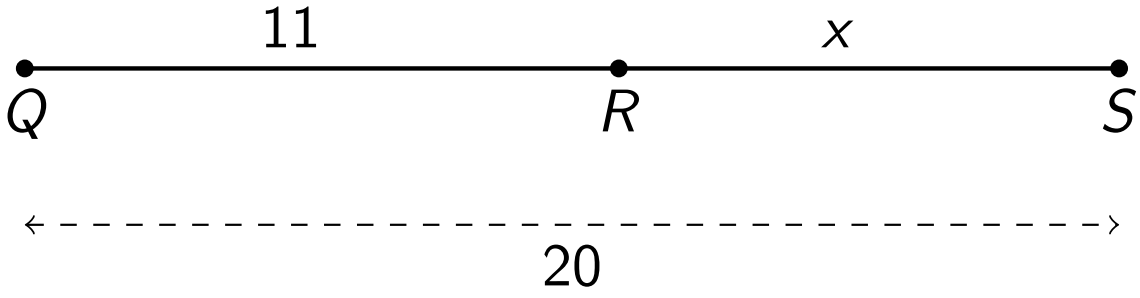
Definition: Points are *collinear* when they lie on a straight line.

Example 2: Points and line segments

Segment Addition Postulate

Given collinear points Q, R, S, with $QR = 11$, $QS = 20$.

Find RS.

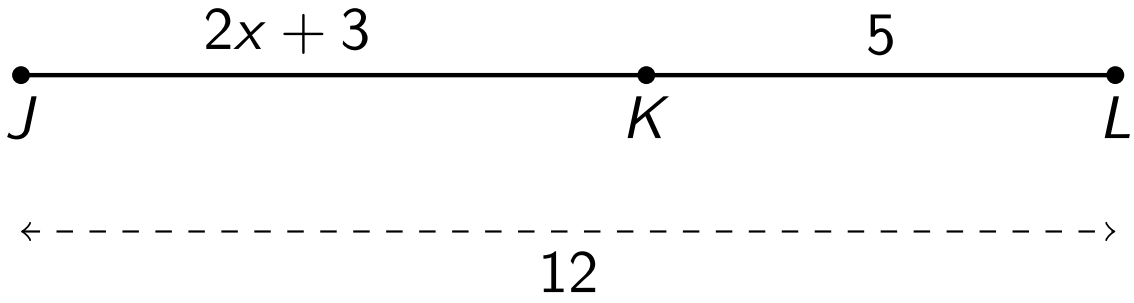


1. How would you check your answer?
2. Which equation represents the situation?

$11 + x = 20$ $\qquad\qquad$ $x = 20 - 11$

Example 3: Segment addition postulate

Given $\overline{JKL}$, $JK = 2x + 3$, $KL = 5$, $JL = 12$. Find x.



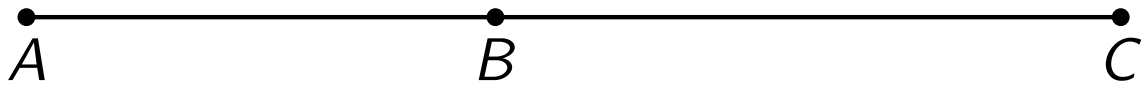
1. Write down an equation to represent the situation.

2. Solve for x.

3. Check your answer.

Example 4: Segment addition postulate

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



Example 4: Segment addition postulate

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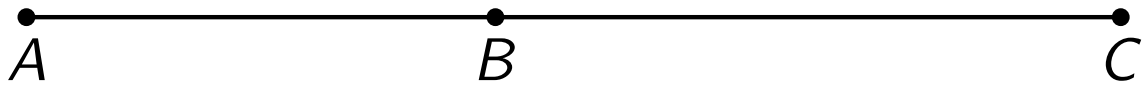


1. Sketch and label the situation
2. Write a geometric equation
3. Substitute algebraic values
4. Solve for the unknown
5. Answer the question
6. Check your answer

GQ: How do we solve for segment lengths?

CCSS: HSG.CO.A.1 Know precise geometric definitions 1.2 Wedn 23-24 Sept

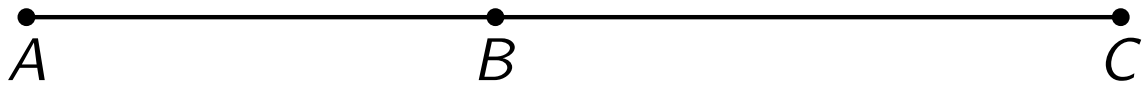
Do Now: Complete Google Form in G-Classroom

Lesson:
Point, line segment, end point, collinear, distance or length;
line, ray, plane, coplanar, congruent, angle, vertex

Midpoints, bisectors, practice segment addition situations

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

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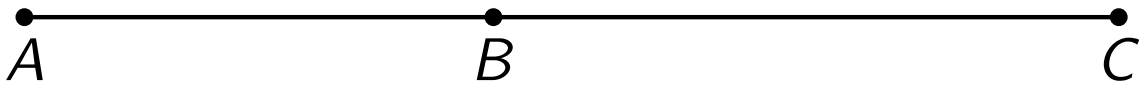

1. Sketch and label the situation
2. Write a geometric equation
3. Substitute algebraic values
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6. Check your answer

GQ: How do we construct an equilateral triangle?

CCSS: HSG.CO.D.13 Construct an equilateral triangle 1.3 Friday 25, 29 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