Unit 1 Part I

Basics of Geometry

NAME: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Period: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Packet Due: \_\_\_\_\_\_\_\_\_\_\_\_\_

Quiz Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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

**Unit 1: Lesson 1** & 2: Basics of Geometry

**Notes**

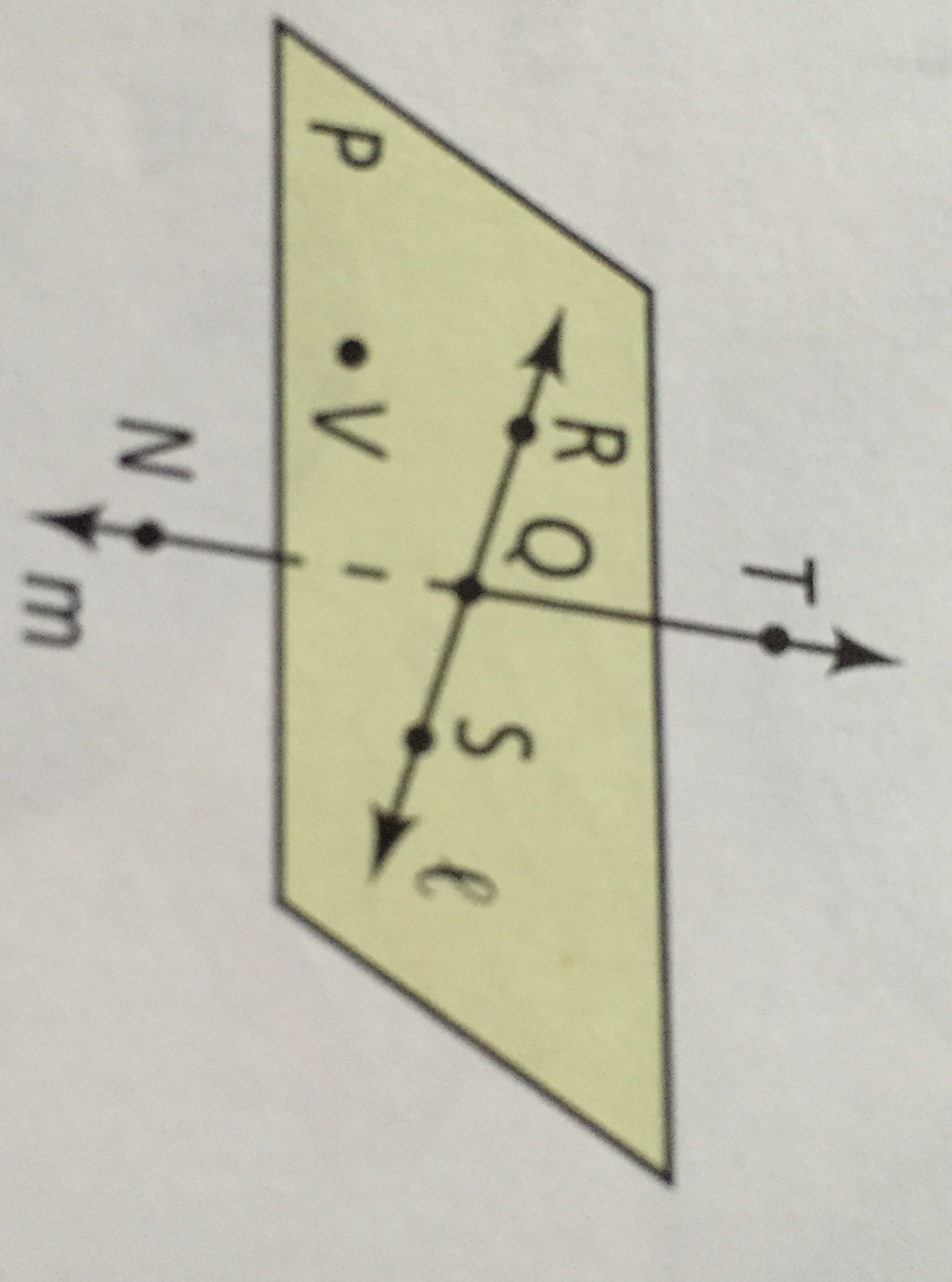
|  |
| --- |
| State one thing you already **know** about Geometry:  State one thing you **want** to learn about in Geometry: |

|  |  |  |  |
| --- | --- | --- | --- |
|  | Point | Line | Plane |
| Model |  |  |  |
| Words and symbols |  |  |  |

|  |  |  |
| --- | --- | --- |
|  | Collinear | Coplanar |
| Define |  |  |
| Example |  |  |

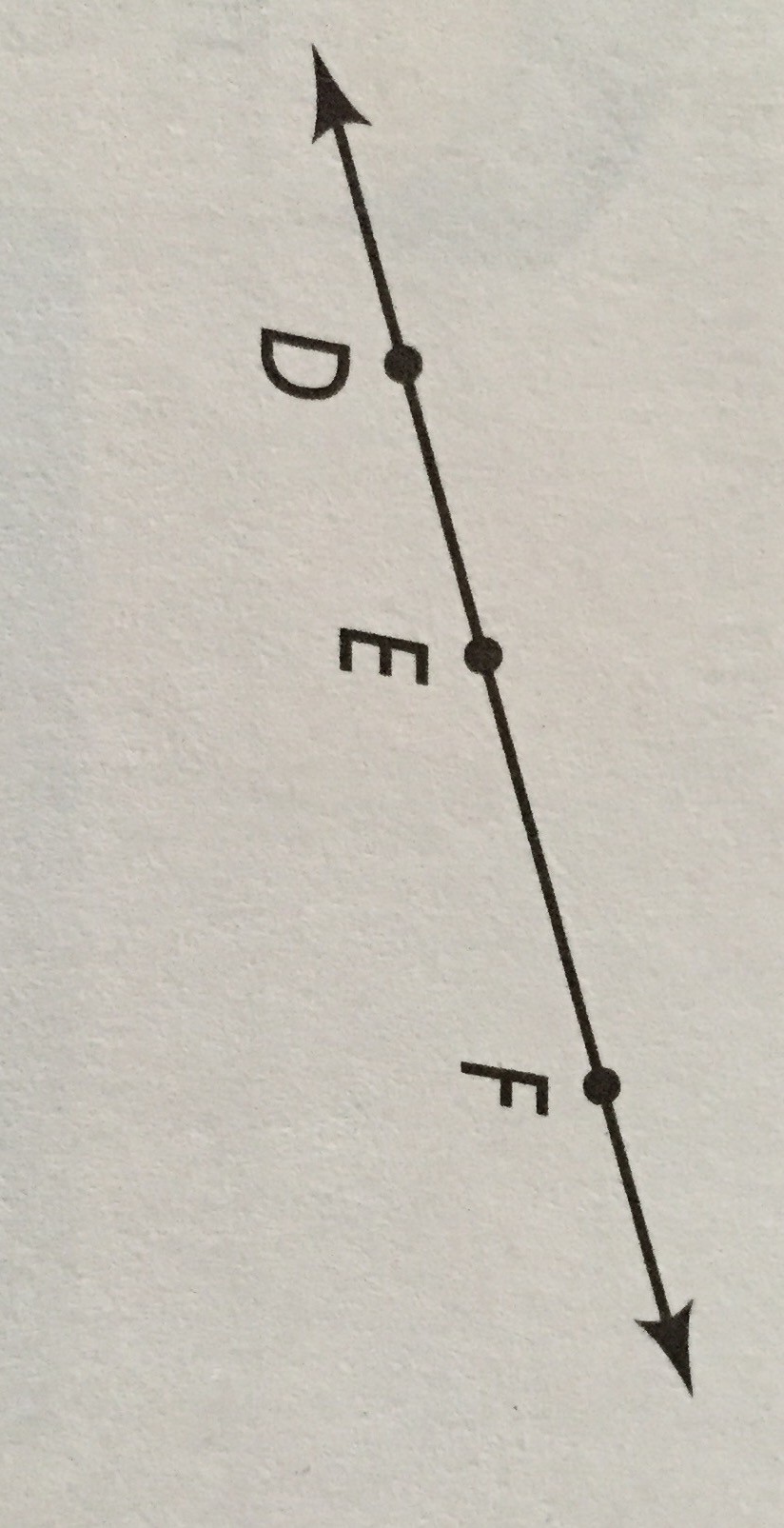
**Practice:** Using the diagram, answer the following questions with your trio.

1. What are **two other** ways to name plane P?
2. What are the names of three collinear points?
3. State three points
4. Name the point of intersection
5. What are the names of four coplanar points?
6. **Writing**: What is the difference between a line and a line segment?

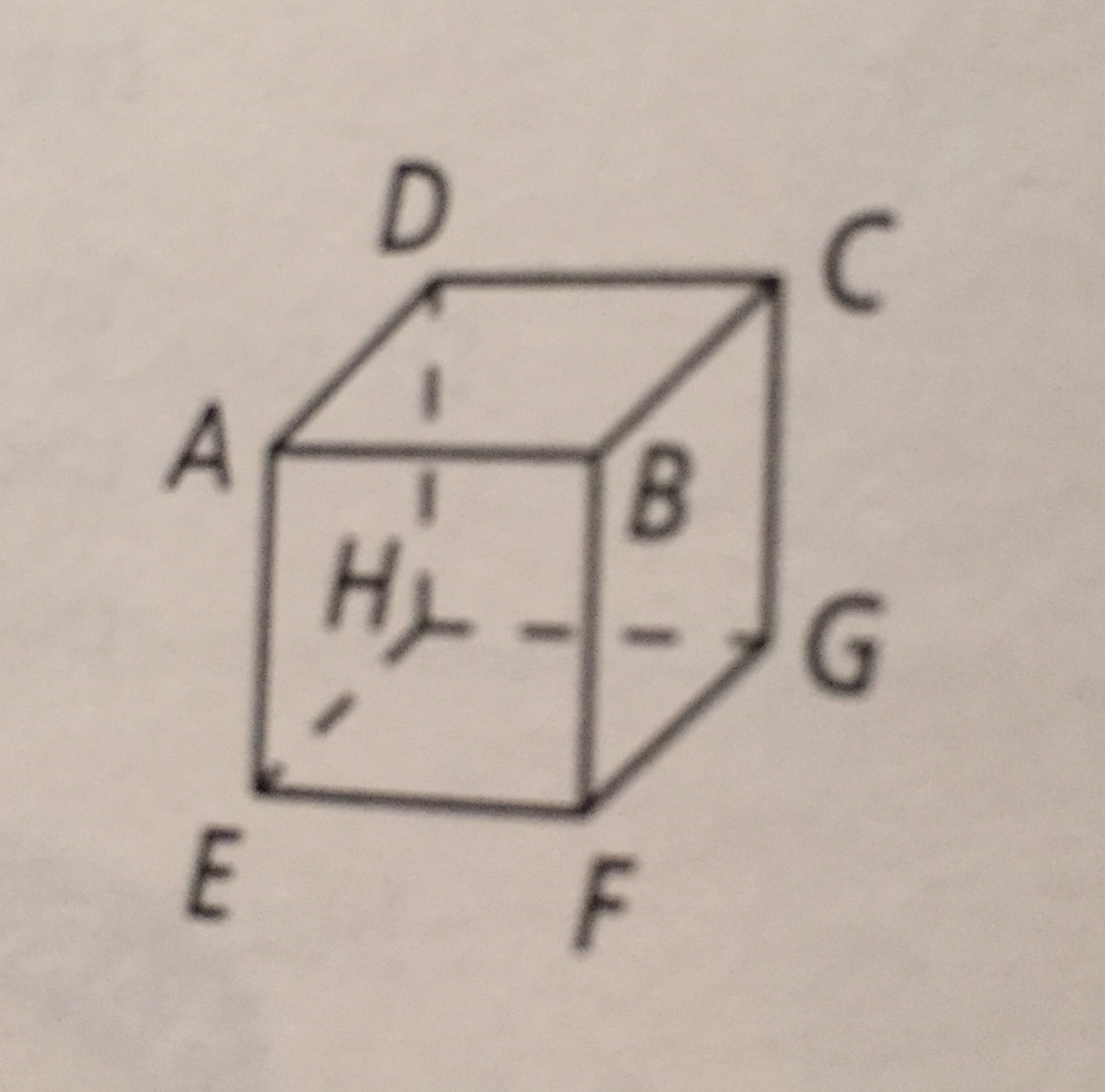


|  |  |  |  |
| --- | --- | --- | --- |
|  | Segment | Ray | Opposite Ray |
| Model |  |  |  |
| Words and symbols |  |  |  |

**Practice:**

1. What are the names of the segments in the figure?
2. What are the names of the rays in the figure?
3. Which of the rays are opposite rays?

|  |  |
| --- | --- |
| Answer each question… | Draw a picture |
| What is an intersection? |  |
| Where do two lines Intersect? |  |
| Where do two planes intersect? |  |

1. a) Name four planes.

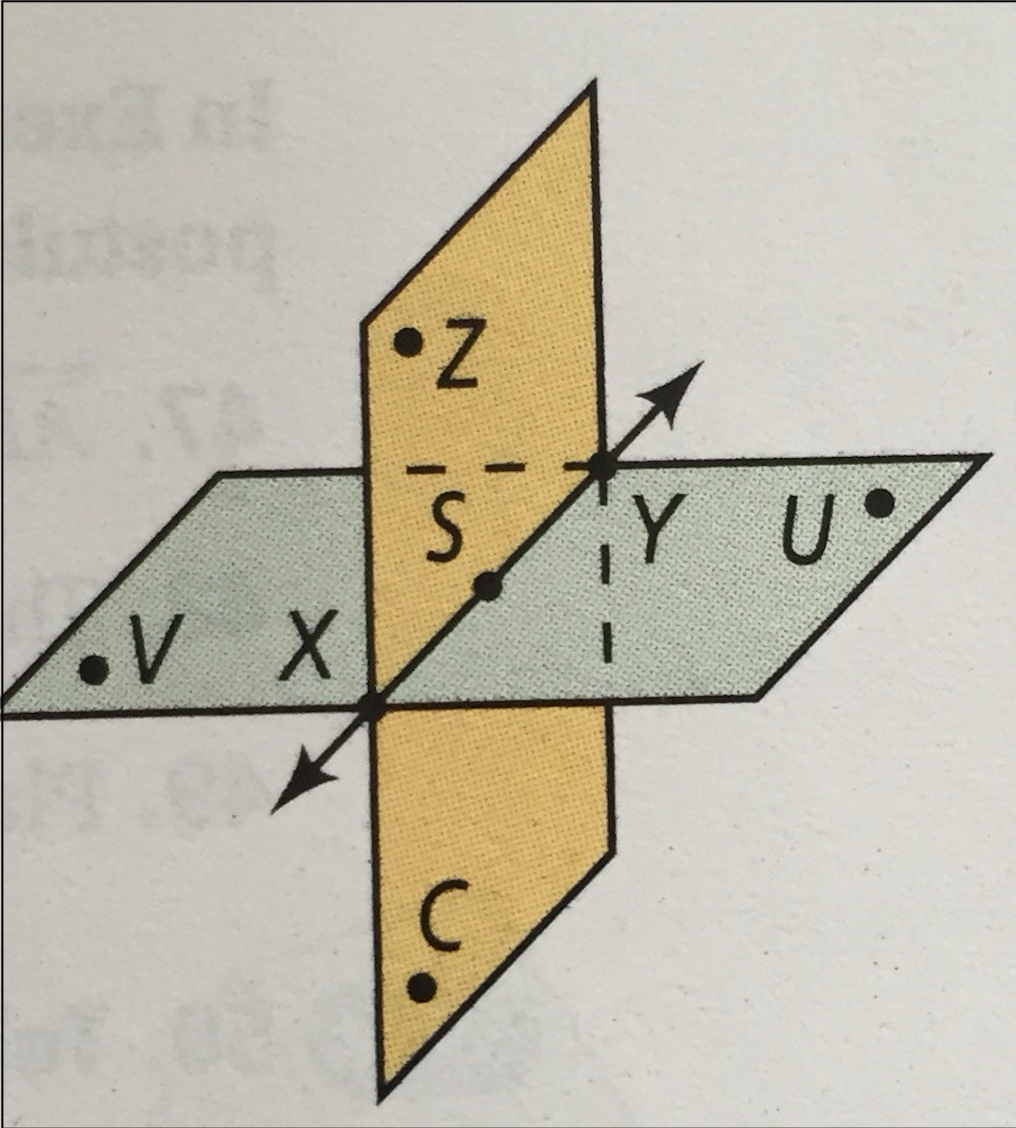
b) How do you know these are planes?

1. What is the intersection of plane ADC and plane BFG?
2. What are the names of the planes that intersect at

**Unit 1: Lesson 3: Points, lines and planes**

**Do Now:** Why do you need to **find two common points** to name the **intersection** of two distinct **planes?**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.



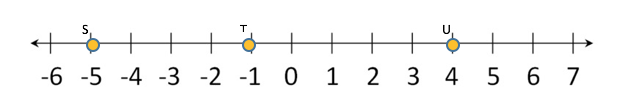
Using the diagram below write the name of…

1. A plane
2. The line of intersection
3. Three coplanar points

What is the length of ST?

How to find **distance/length** on a number line?

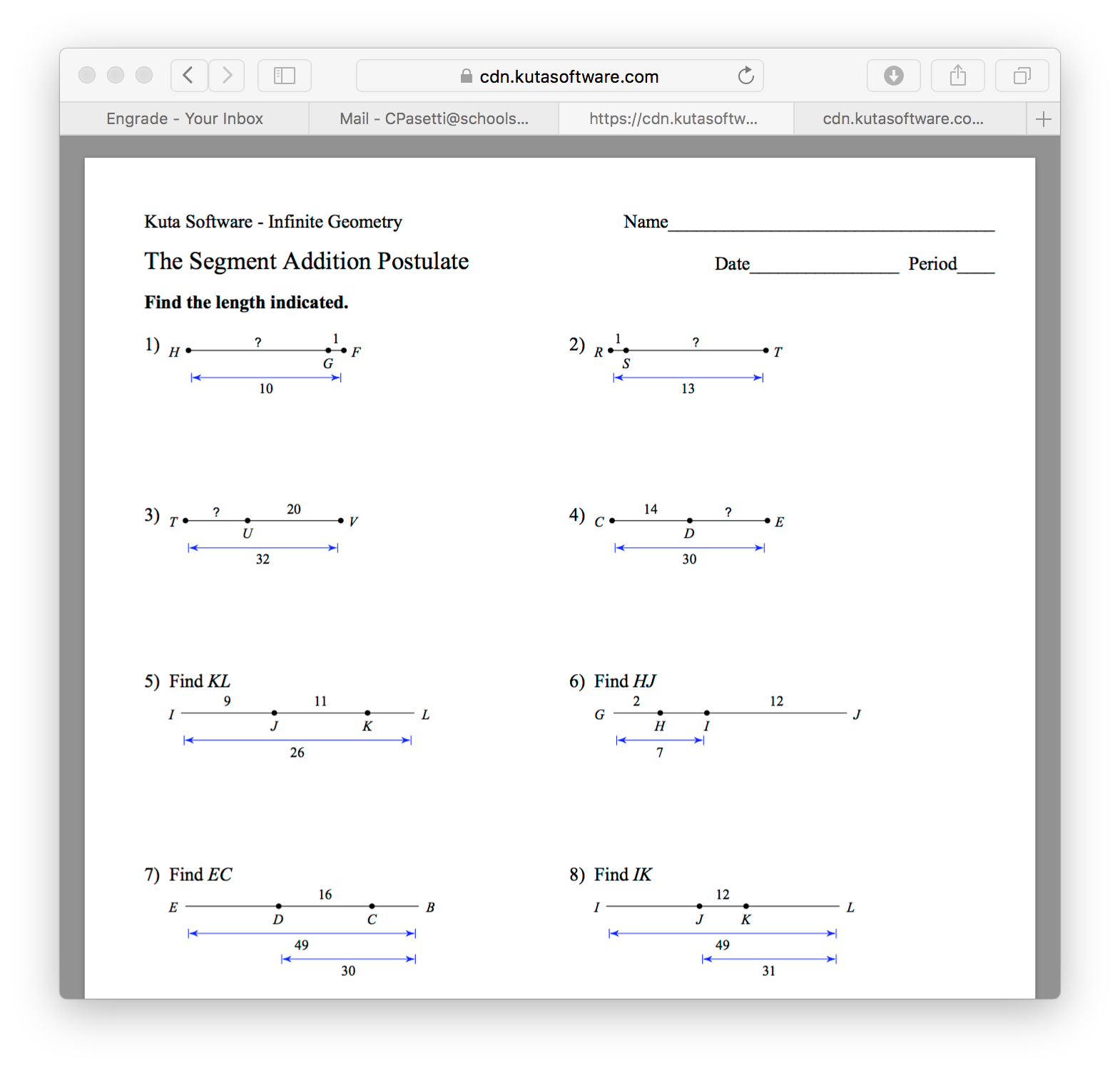
What is the length of TU?

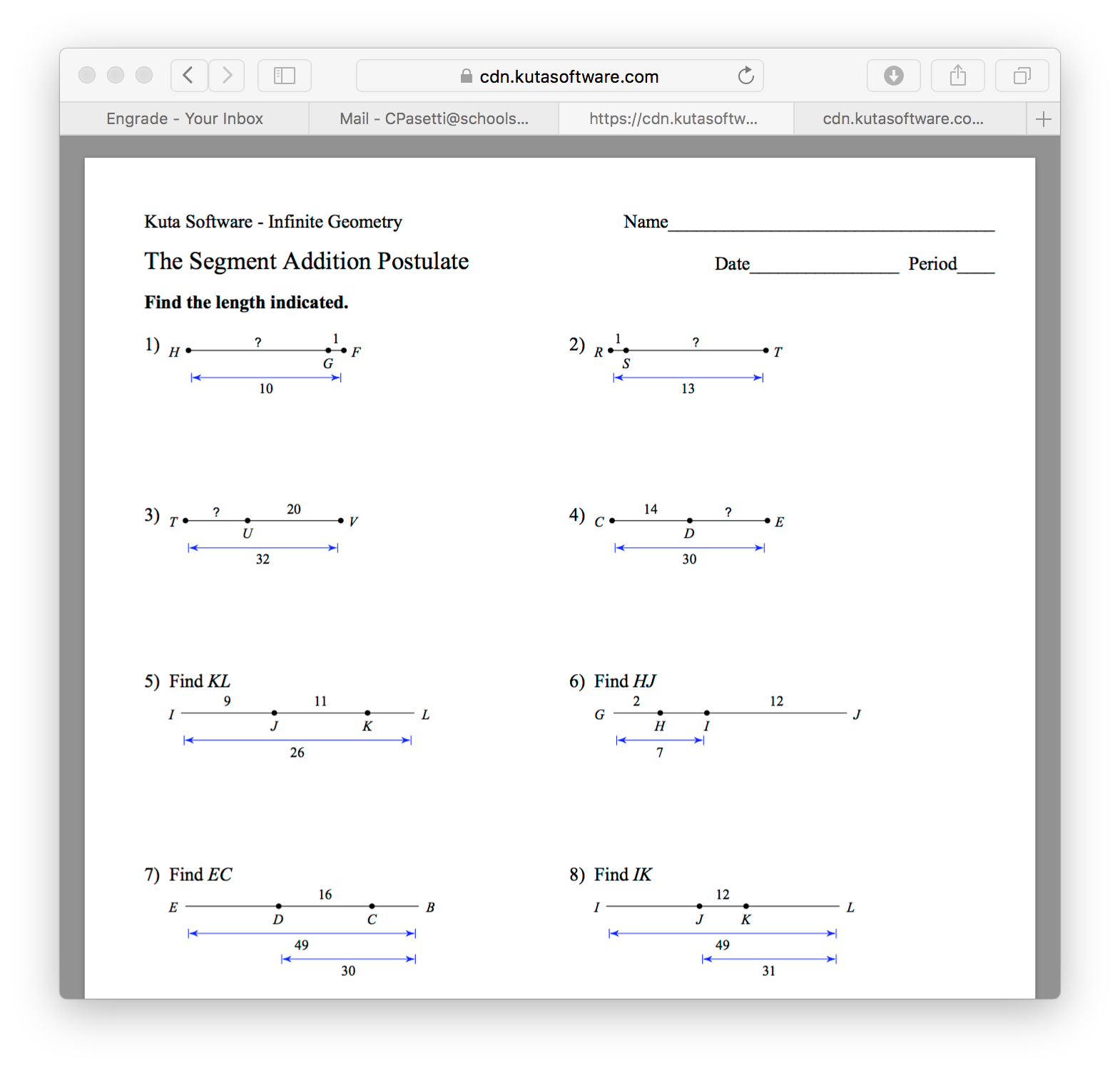
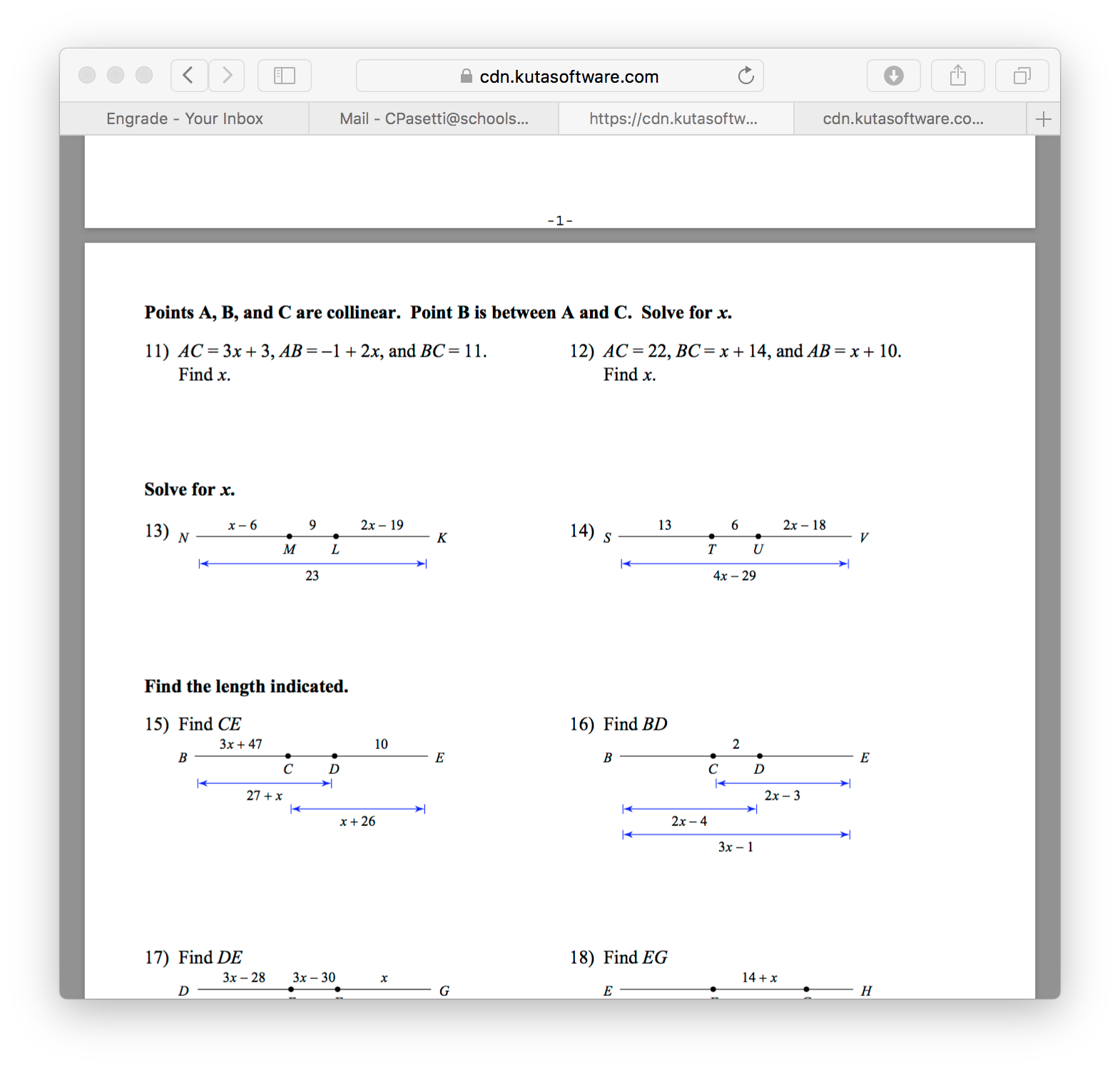
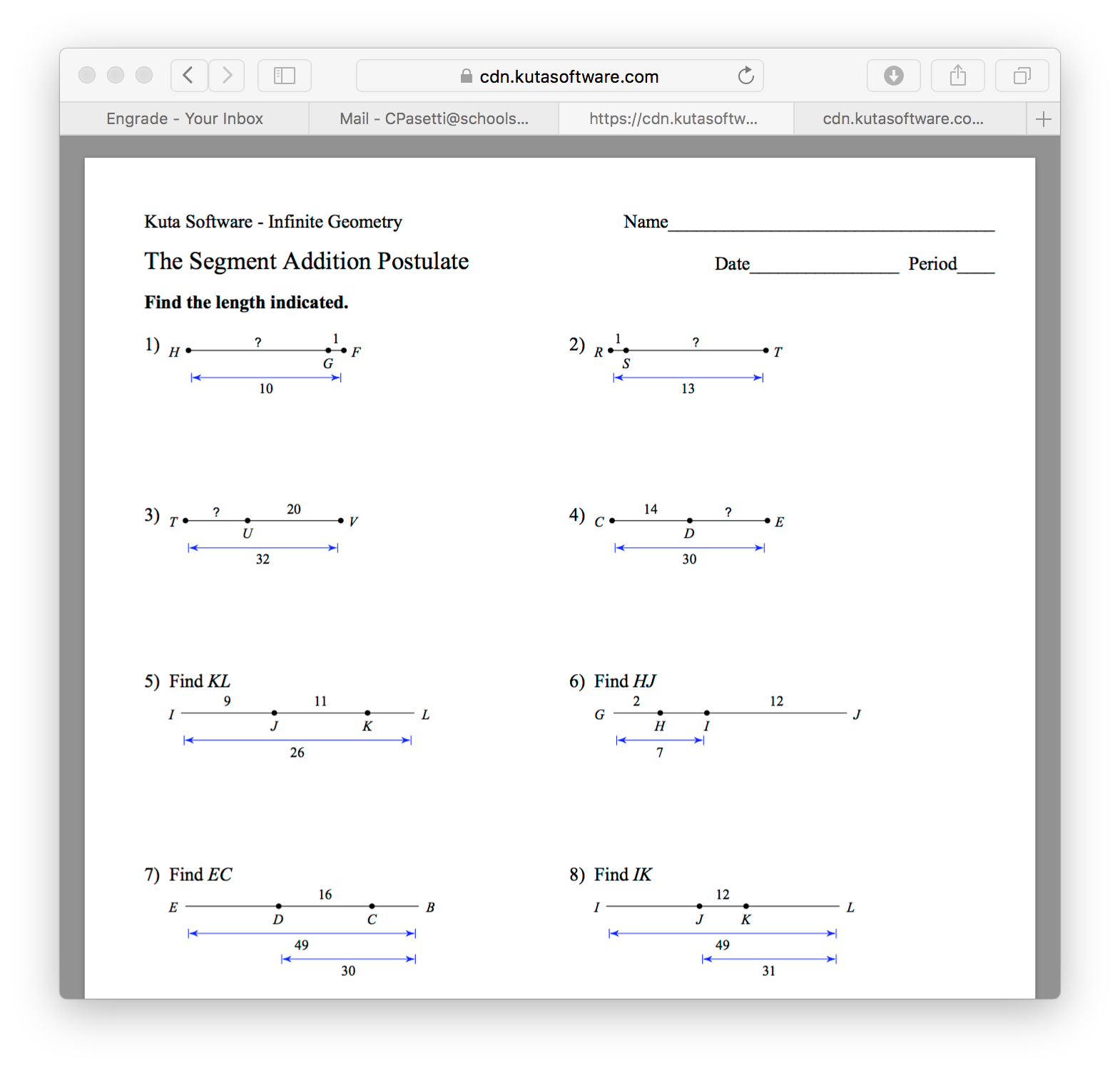


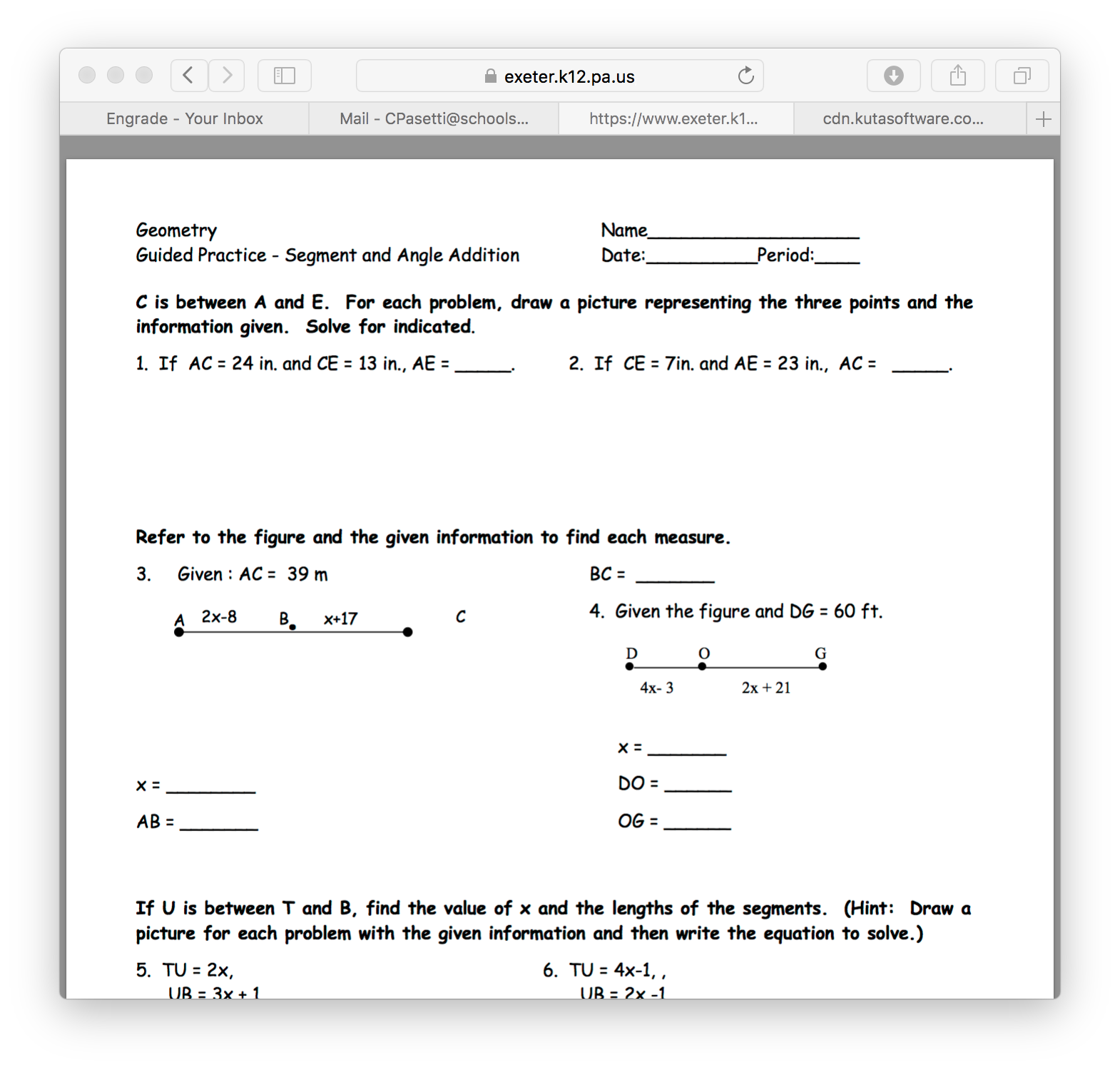
|  |
| --- |
| Definition: **Congruent**  Picture: Symbol: |
| If point V is added to the number line above and *ST TV,* what coordinate should be labeled as point *V? Explain your reasoning* |

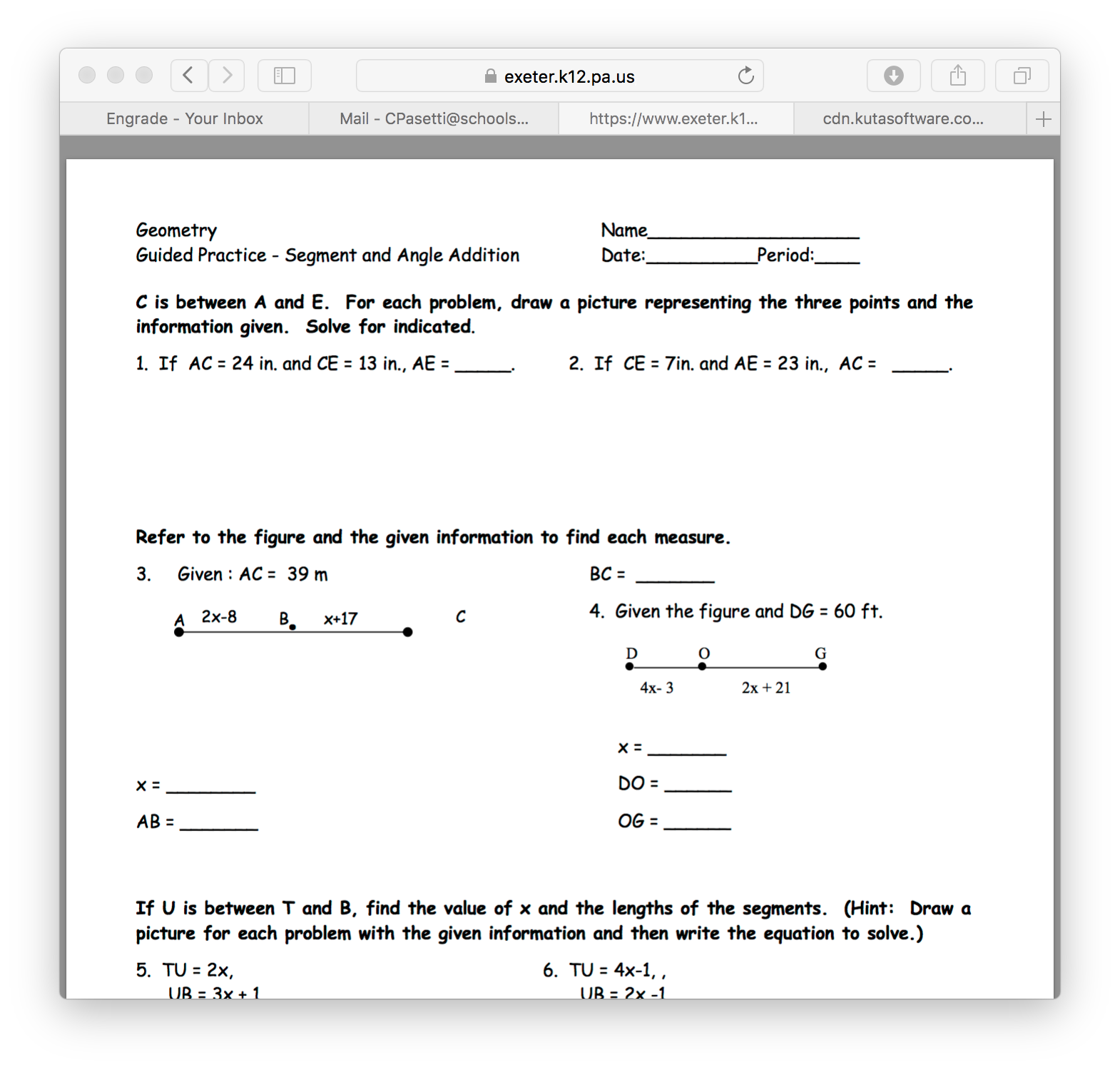
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| Define: **Midpoint** |
| Picture: |
| Problem 4:  B is the midpoint of AC. What are AB, BC and AC?  A B C   1. Find the value of x. b) Find AB and BC c) Find AC |
| **Segment Addition Postulate:**  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_= \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Picture |
| Practice Problem:   1. If *PR=* 63, find the value of x. Find the measures of PQ and QR |

**Unit 1: lesson 3 Practice**

1. **Solve for the missing variable**



1. **B is the midpoint of A and C. Find the missing variable and the length of AB and AC.**
2. **Given the figure and DG = 60 ft.** x = \_\_\_\_\_\_\_ DO = \_\_\_\_\_\_ OG = \_\_\_\_\_\_



Unit 1: Lesson 4: Measuring Angles

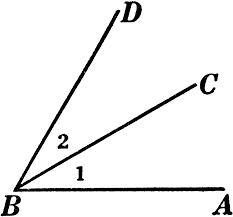
Do Now: If AC=98, what are AB and BC.

AB= \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ BC= \_\_\_\_\_\_\_\_\_\_\_\_\_\_

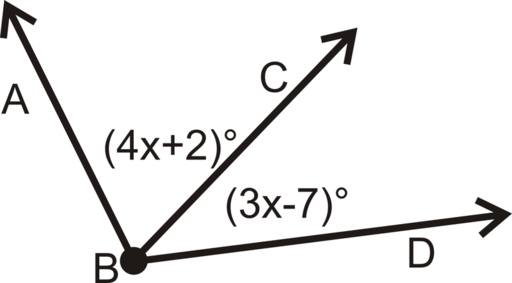
|  |  |  |
| --- | --- | --- |
| Angle | | |
| Definition: | Diagram: | Name it: |

|  |  |  |  |
| --- | --- | --- | --- |
| Acute Angle | Right Angle | Obtuse Angle | Straight angle |
|  |  |  |  |
|  |  |  |  |

**Naming Angles:**

1. What are two other names of ∠2?
2. What are two other names for ∠CBA?

|  |
| --- |
| **Angle Addition Postulate**  If Point B is in the interior of ∠AOC, then m∠AOB + m∠BOC = m∠AOC  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Picture Explanation: |



Problem 1: If m∠ABD = 35, what are m∠ABC and m∠CBD?

Step 1: Angle Addition Postulate

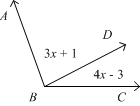
Step 2: Substitute

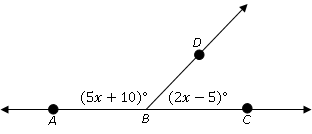
Step 3: Solve for x.

Step 4: Find the measure of each angle

For Problems 2, 3 and 4 work in your trio groups.

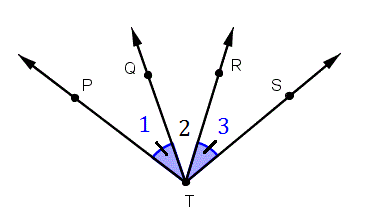
Problem 2: If m∠ABC = 47, what are m∠ABD and m∠DBC?



Problem 3:

∠ABC is a straight angle. What are m∠ABD and m∠DBC.

\*Hint: What do we know about straight angles?

Problem 4: Solve for x

m∠PTQ = 4x-2

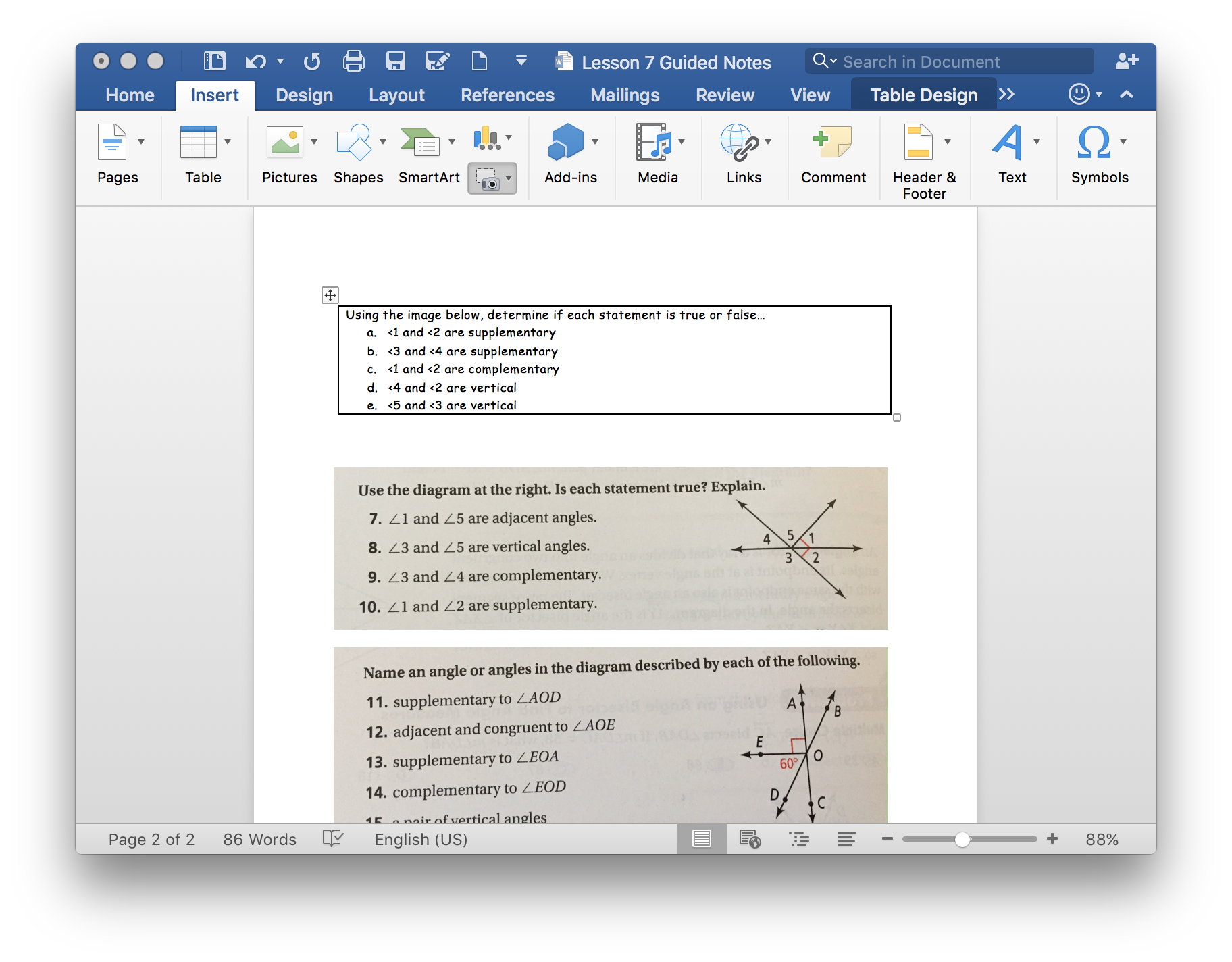
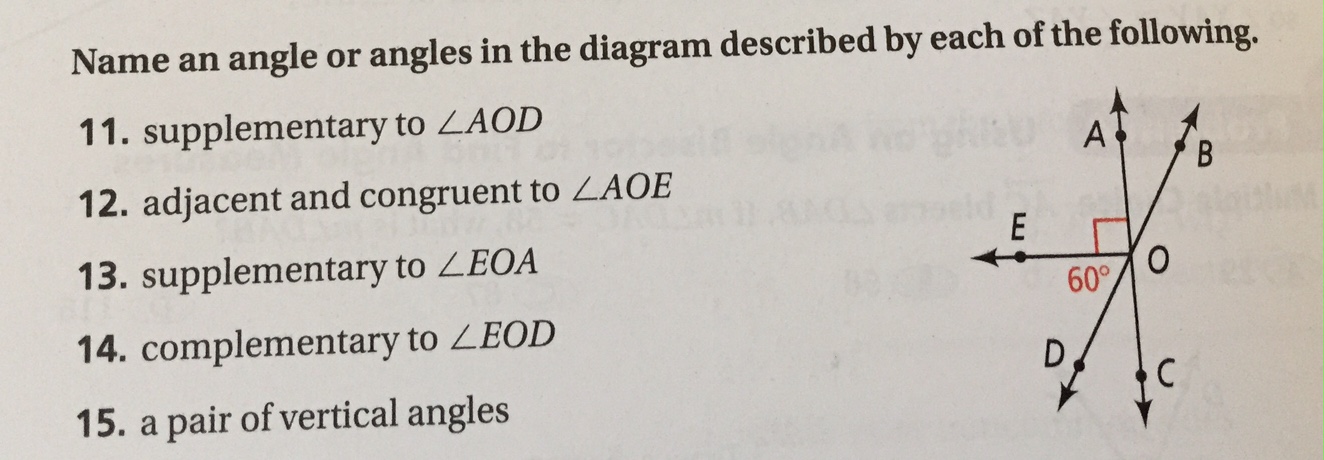
m∠QTR = 5x+10

m∠RTS = 2x +14

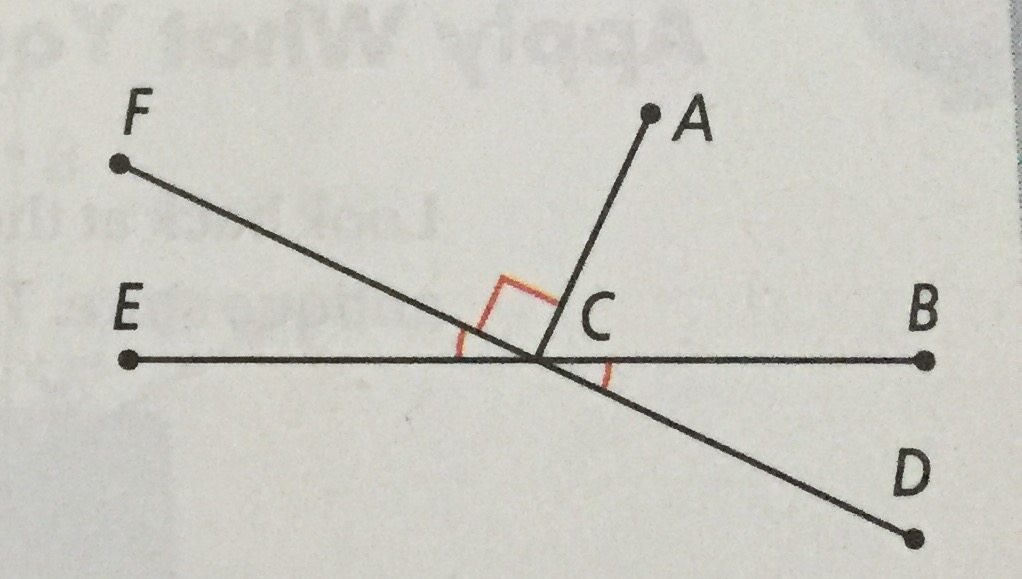
**Unit 1 Lesson 5: Angle Relationships**

Do Now: Create flip book

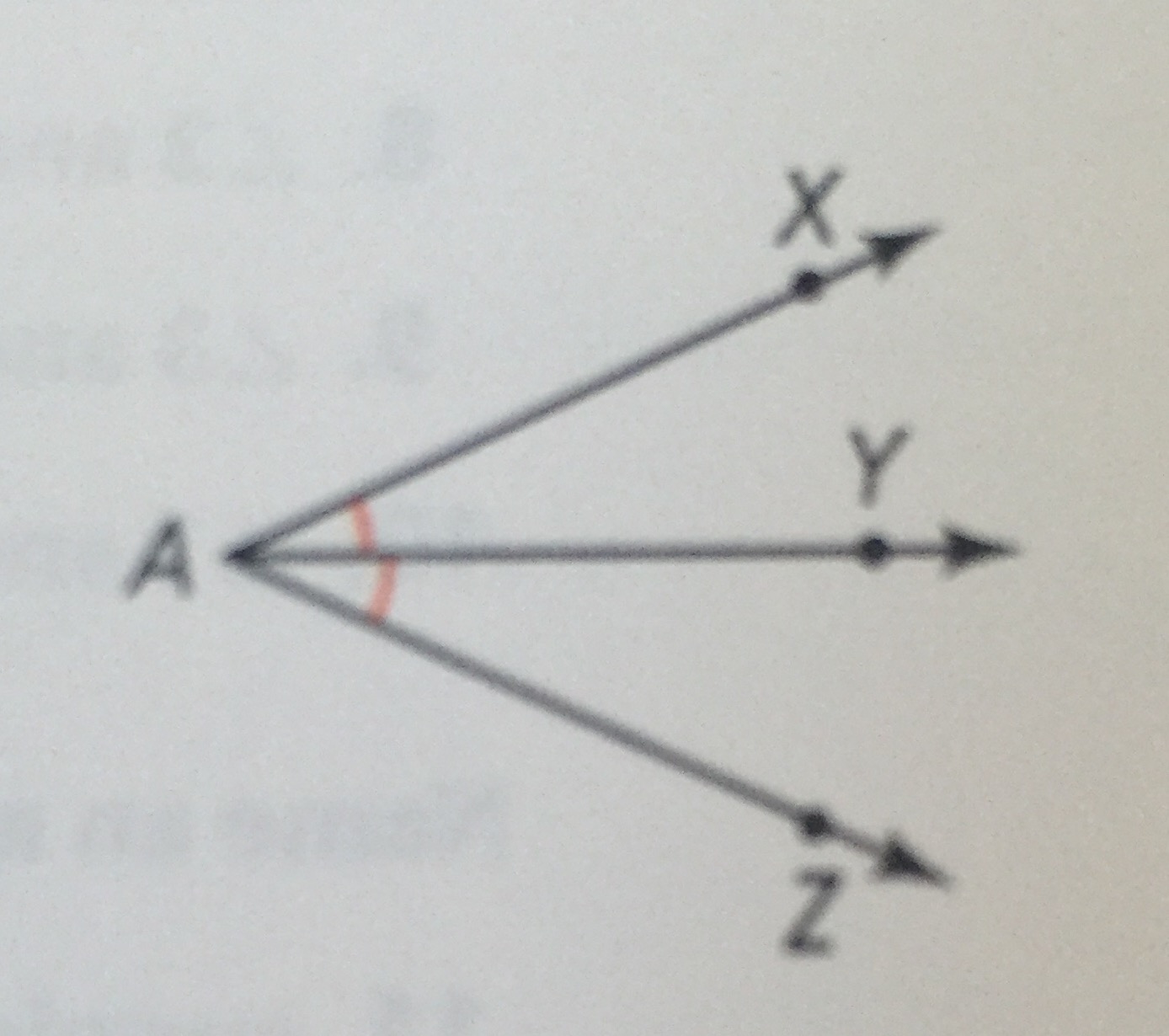
|  |
| --- |
| Adjacent Angles Vertical Angles Complementary Angles  Supplementary Angles Linear Pair Bisector |

1. Using the image below, determine if each statement is true or false. If false, change the sentence to make it true.
2. <1 and <2 are supplementary
3. <3 and <4 are supplementary
4. <1 and <2 are complementary
5. <4 and <2 are vertical
6. <5 and <3 are vertical
7. Name a pair of angles in the diagram below to match the description given
8. supplementary to <AOD
9. a pair of vertical angles
10. complementary to <COD
11. a linear pair

Challenge: Find the measure of <DOC

**Problem 1: m**∠ACB= 65

1. **Find** m∠ACD
2. **Find** m∠BCD
3. **Find** m∠ECD

**Problem 2**: ∠XAY= 3X-10 AND ∠YAZ= 5X – 20

1. Solve for x
2. Find the measure of ∠XAY
3. Find the measure of ∠YAZ

**Problem 3**: bisects DAB. If mDAC=58, what is mDAB?

**Problem 4**: bisects RPT. If mRPB= x + 2 and m. What is mRPT

Challenge: The measure of one angle is twice the measure of its supplement. Find the measure of each angle.

Draw the picture described in each statement

1. **Ray GI bisects** ∠**DGH**
2. **bisects and intersects at E**
3. ∠**ABC and** ∠**CBD are a linear pair**
4. intersects
5. Plane XYZ intersects plane ABC at