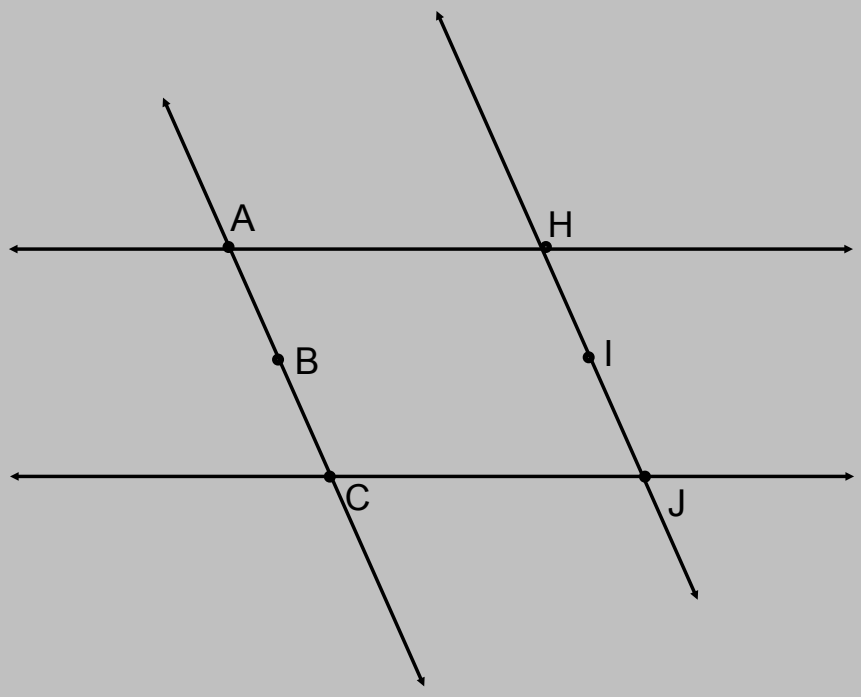
Pop Quiz
Get out a scrap sheet of paper.
Write your name at the top.

1. **Define collinear points.**

2. **Define a plane.**

3. **List <u>two pairs</u> of opposite rays.**



No Bellwork
08/18/2011

Geometry

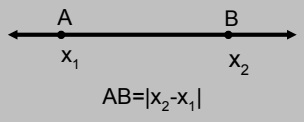
1.2 Use Segments and Congruence

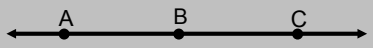
Standard(s): 3, 4

Vocabulary:

1. **Postulate (axiom): A rule that is accepted without proof.**

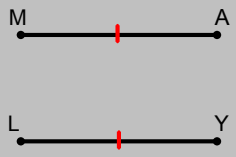
2. **Distance: The absolute value of the coordinates of the endpoints.**





3. **Congruent Segments: Line segments with the same length ("tick" marks).**

Lengths are equal.
MA=LY

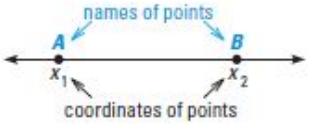


Segments are congruent.
$\overline{MA} \cong \overline{LY}$

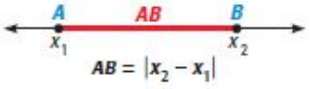
POSTULATE *For Your Notebook*

POSTULATE 1 Ruler Postulate

The points on a line can be matched one to one with the real numbers. The real number that corresponds to a point is the **coordinate** of the point.



The **distance** between points A and B, written as AB, is the absolute value of the difference of the coordinates of A and B.

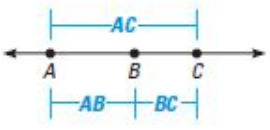


POSTULATE *For Your Notebook*

POSTULATE 2 Segment Addition Postulate

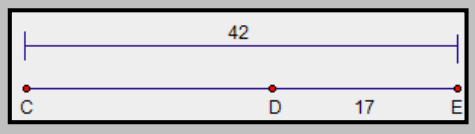
If B is between A and C, then $AB + BC = AC$.

If $AB + BC = AC$, then B is between A and C.



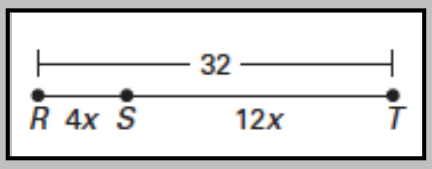
Finding a Length

Find CD.



x+17=42
x=25
CD=25

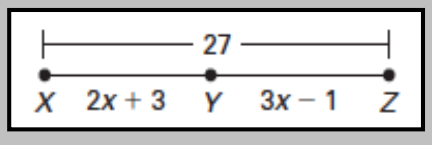
Find ST.



4x+12x=32
16x=32
x=2

12(2)=24
ST=24

Find YZ.

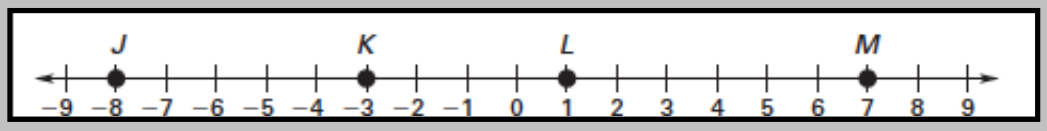


2x+3+3x-1=27
5x+2=27
5x=25
x=5

3(5)-1
15-1=14
YZ=14

Distance on Number Lines

Use the number line to find the indicated distance.



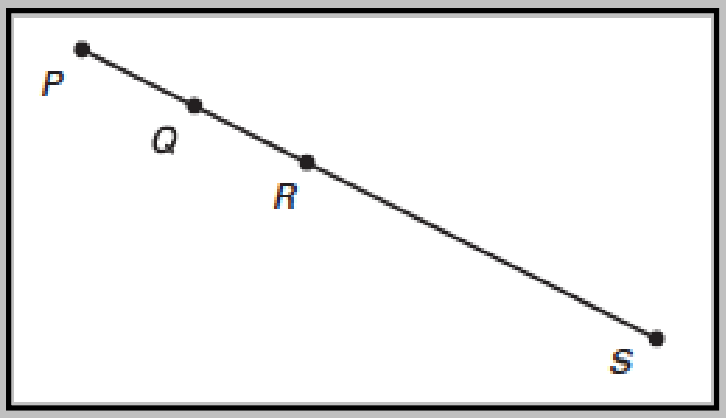
JK=|-3-(-8)|
|-3+8|
|5|=5
JK=5

KL=|1-(-3)|
|1+3|
|4|
KL=4

JL=|1-(-8)|
|1+8|
|9|=9
JL=9

Finding an Indicated Length

In the diagram, points P, Q, R, and S are collinear. PS=46, PR=18, and PQ=QR. Find the indicated length.



PQ=9

QR=9

RS=28

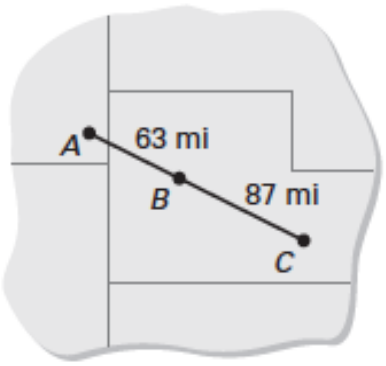
QS=37

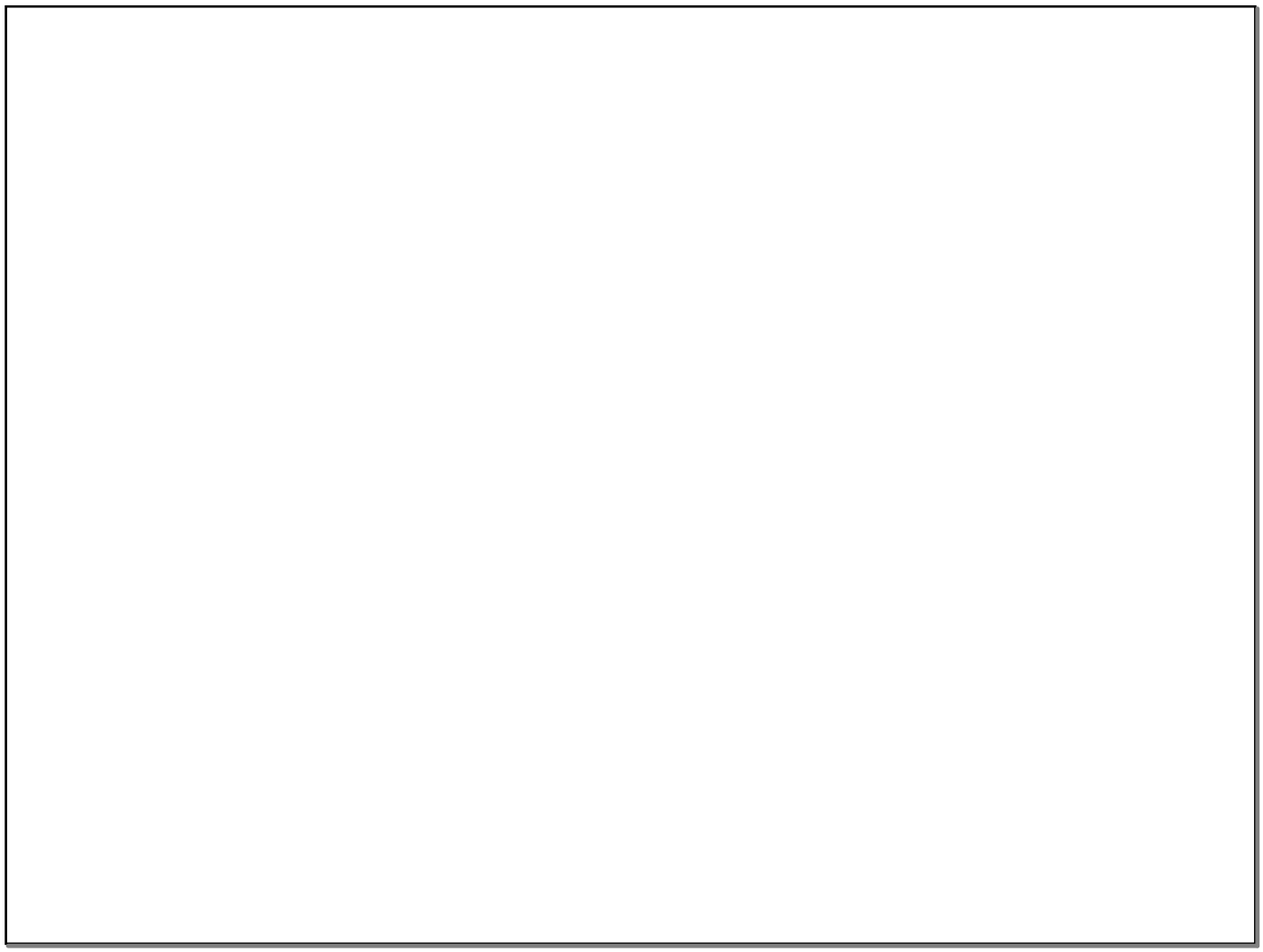
Applying the Segment Addition Postulate

Highway You are traveling on a highway starting at point *A*. After you have traveled 63 miles (point *B*), you see a sign that says it is 87 miles to your destination (point *C*).

a. Find the total distance you will travel to get to your destination. 150 mi

b. You are traveling at a constant speed of 60 miles per hour. How many hours will the entire trip take? 2.5 Hrs



Homework Assignment

Worksheet 1.2B