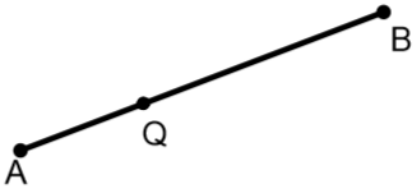
Geometry CC – Mr. Valentino
Unit 10 Lesson 4: Partitioning a Line Segment

Name: _____
Date: _____ Per: _____

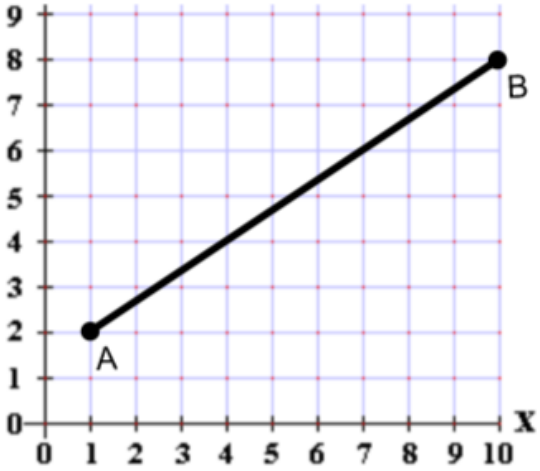
Aim: How can we partition a line segment?

Do Now: Point Q divides the directed line segment AB in the ratio of 1 to 2. Make up 2 sets of possible lengths for AQ and QB.

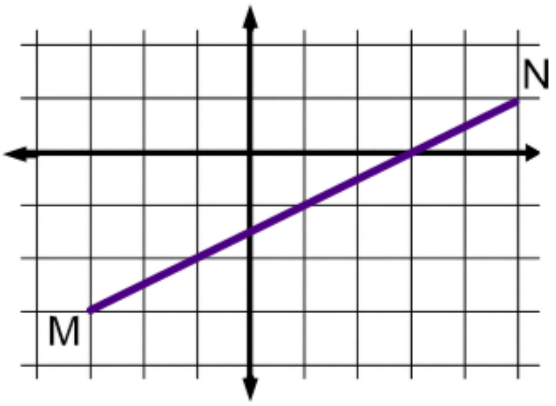


Partitioning a Line Segment Graphically

1. What if the line segment AB is on the coordinate plane? Find the coordinates of point Q if it still divides the directed line segment AB in the ratio of 1:2.



2. Find the coordinates of point P that is on the directed line segment from M(-3,-3) to N(5,1) and partitions the segment in the ratio of 3 : 1.



How can we find the point when it's not on a graph?

Partitioning a line segment algebraically

3. Find the coordinates of the point P that lies along the directed line segment from S(1, 1) to T(7, 4) and partitions the segment in the ratio of 2 : 1 (algebraically)

Partner Practice

Find the point that partitions the segment with the two given endpoints with the given ratio.

1. (-3, 4) (7, 6) 1:1

2. (-9, 3) (1, 8) 2:3

3. (8, -5) (4, 7) 1:3

4. (5, -6) (4, 5) 3:4

5. (4, 9) (-5, -3) 2:3

6. (2, -1) (-3, -5) 1:2

7. Pick any problem from 1-6 on the last page and show how to find the point graphically: