Lesson 15: The Distance from a Point to a Line

Classwork

Exercise 1

A robot is moving along the line . A homing beacon sits at the point.

* 1. Where on this line will the robot hear the loudest ping?

* 1. At this point, how far will the robot be from the beacon?

Exercise 2

For the following problems, use the formula to calculate the distance between the point and the line .

* 1. and the line
  2. and the line
  3. and the line

Problem Set

1. Given with vertices , , and .
   1. Find the slope of the angle bisector of .
   2. Prove that the bisector of is the perpendicular bisector of .
   3. Write the equation of the line containing .
2. Use the distance formula from today’s lesson to find the distance between the point and the line
3. Confirm the results obtained in Problem 1 using another method.
4. Find the perimeter of quadrilateral shown below.

