Name:

Problem 1

A Geometry "Ice Breaker":

Getting to Know Your Fellow Points

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1.1

Your teacher has given each student in your class a point on the Cartesian coordinate plane. These "point names" will be used for a reflective, fold line investigation in this exercise.

1.2

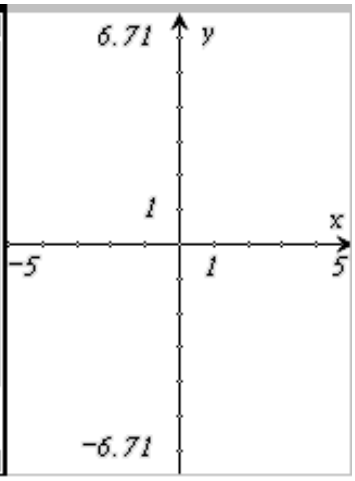
Using your point and one other student point, imagine that on a piece of graph paper you fold the paper such that your points would touch. Could you determine the equation of your "fold line"? Perhaps, you might actually want to do this to see the fold line.

1.3

Let's try a sample problem:
Student point A: (2, 1)
Student point B: (−2, 4)
Answer these questions.
a) What is the midpoint between points A and B?
b) What is the slope between points A and B?
c) What is the slope of the "fold line" when point A is folded onto point B?
d) Write the equation of the "fold line"..

1.4

Choose another student, plot your point, the other student point and the midpoint between you. Construct your "reflected fold line" or the line of symmetry across which your



1.5

Can you find other student points with which you share:

Vertical fold line symmetry?

Horizontal fold line symmetry?

Will you always find a reflected fold line of symmetry with any student point?

1.6

Will you always find a reflected fold line of symmetry with any student point?

- [x] Yes
- [x] No

1.7

What is the geometric name for any reflective fold line you find from your point to another student point?

Student types answer here

Suggested Response:

The perpendicular bisector of line segment AB

1.8