Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **Unit 6 – Locus on a Coordinate Plane**

Monica

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

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

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| **Outcome** | **Rating** |
| #17: Graphs, solves, and communicates problems using compound loci, including on a coordinate plane | **NY MS ES** |

**Directions:** Answer all of the questions below. Be sure to show all of your work. Use pencil!

1) In a coordinate plane, how many points are both 5 units from the origin and 2 units from the *x*-axis? Sketch a picture on the coordinate plane below.



2) In the coordinate plane, what is the total number of points 5 units from the origin and equidistant from both the *x*- and *y*-axes? Sketch a picture on the coordinate plane below.



3) On the set of axes below, graph the locus of points 4 units from the *x*-axis and equidistant from the points whose coordinates are  and . Mark with an **X** all points that satisfy *both* conditions.



4) A city is planning to build a new park. The park must be equidistant from school *A* at  and school *B* at . The park also must be exactly 5 miles from the center of town, which is located at the origin on the coordinate graph. Each unit on the graph represents 1 mile. On the set of axes below, sketch the compound loci and label with an **X** all possible locations for the new park.

