Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **Unit 6 – Locus Theorems**

Monica

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

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

**Directions:** Sketch the locus for each scenario. Use dashed lines to show each locus. Then, fill in the blanks to make each theorem complete.

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| **#** | **THEOREM** | **PICTURE** |
| 1 | The locus of points a fixed distance, *d*, from point *P* is a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ with the given point *P* as its center and *d* as its radius. | Sketch the points *d* units away from point *P.*  *P* |
| 2 | The locus of points at a fixed distance, *d*, from a line, *l*, is a pair of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ *d* distance from *l* and on either side of *l.* | Sketch the points *d* units away from line *l.*  *l* |
| 3 | The locus of points equidistant from two points, *P* and *Q*, is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of the line segment determined by the two points. | Sketch the points equidistant from points *P* and *Q.*  *P*  *Q* |
| 4 | The locus of points equidistant from two parallel lines,  and , is a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ parallel to both  and and midway between them. | Sketch the points equidistant from and . |
| 5 | The locus of points equidistant from two intersecting line,  and , is a pair of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ that bisect the angles formed by  and . | Sketch the points equidistant from  and . |