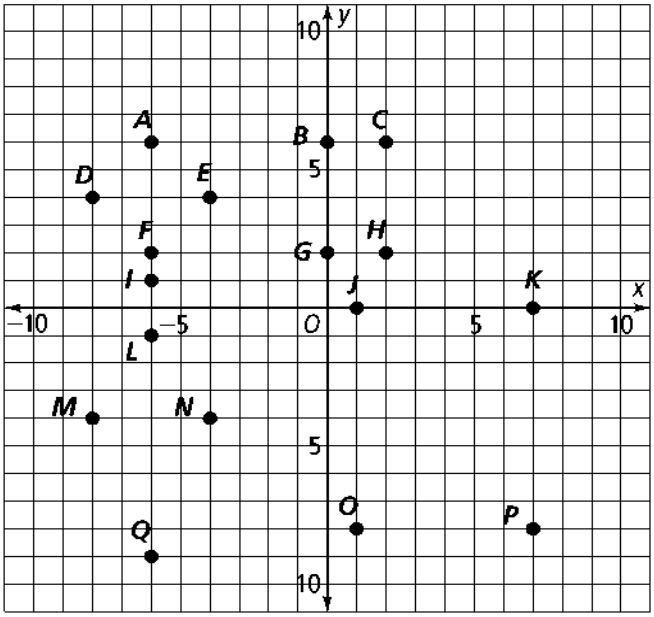
Name _____ Class _____ Date _____

12-6 Puzzle: Locus Focus

Locus: A Set of Points



Each point on the coordinate plane above belongs to exactly one locus of points described below. Match the point(s) to its description.

1. the locus of points 1 unit from (−5, 1) and 3 units from (−3, 1)

_____

2. the locus of points 2 units from $y = 4$ and 1 unit from $x = 1$

_____

3. the locus of points equidistant from $y = -2$, $y = -6$, $x = -7$, and $x = -1$

_____

4. the locus of points 3 units from $x = 4$ and 5 units from (4, −4)

_____

5. the locus of points equidistant from $y = x + 10$ and $y = -x - 2$ and 2 units from (−6, 4)

_____

6. the locus of points equidistant from (−2, −7) and (−10, −7) and 4 units from (−6, −5)

_____

7. the locus of points equidistant from (−10, −3), (−10, −5), and (−6, −5)

_____

Name _____ Class _____ Date _____

12-6 Practice

Locus: A Set of Points

Describe each locus of points in a plane (can use a picture).

8. points 1.5 cm from point T

9. points 1 in. from $\overline{PQ}$

10. points that are equidistant from two concentric circles (circles with the same center) whose radii are 8 in. and 12 in.

11. points equidistant from the endpoints of $\overline{AB}$

Describe each locus of points in space can use a diagram.

12. the set of points in space 1 foot from a point

13. all points in space 2 cm from a segment

14. all points 5 ft from a given plane P

For Exercises 15–18, describe each locus.

15. What locus contains all the houses that are exactly 1 mi from the library?

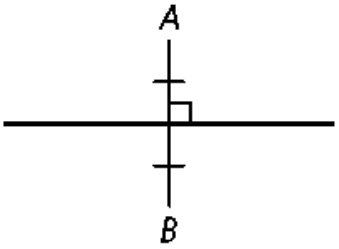
16. What locus contains all the bushes that can be placed 20 ft off of a circular path with a radius of 80 ft?

17. Identify the locus of points 10 units from a circle of radius 3 in a plane.

18. Identify the locus of points 19 units from a given line in a plane.

Describe the locus that each thick line represents.

19.



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