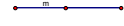
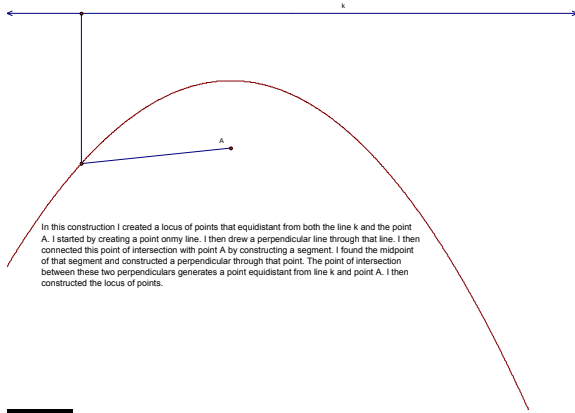


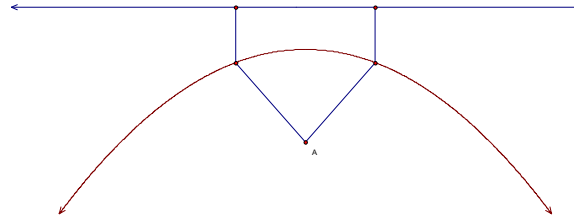
Given: Point A, line k, and length m.
Construct the locus of points X such that $m = \text{Dist}(X,A) - \text{Dist}(X,k)$



Given: Point A and line k.
Construct the locus of points X such that $\text{Dist}(X,A) = \text{Dist}(X,k)$.



In this construction I created a locus of points that equidistant from both the line k and the point A. I started by creating a point on my line. I then drew a perpendicular line through that line. I then connected this point of intersection with point A by constructing a segment. I found the midpoint of that segment and constructed a perpendicular through that point. The point of intersection between these two perpendiculars generates a point equidistant from line k and point A. I then constructed the locus of points.



This construction shows that there exists a distance m which is equal to the distance from X to point A minus the distance from X to line k. I started with the givens. From there I formed to rays on segment m and constructed two points along those rays. Next I created a line. I placed a point on that line and constructed a circle with radius X around it. Then I inserted a perpendicular line through the center of the circle. At that point of intersection I drew a parallel line to my first line. I then created a circle around point A with radius of length A. I then drew in the locus of points.

These are both very much Type 1 explanations. You tell the reader what you've done, but without revealing why you've decided to do what you did.

I'll comment on the first one because the two are very similar.

Your introductory sentence says what you claim this construction shows, but without a justification of how it shows it. The visible part (the diagram) doesn't show it! I move point A and I see that things move, but how do I know that the difference $d(X,A) - d(X,k)$ remains constant?

Second, you need to explain your construction in a way that reveals your rationale for what you did. You say, "From there I formed [two] rays on segment m and constructed two points along those rays. I believe you misspoke. It is not possible to construct a ray on a segment. A segment cannot contain a ray. Also, why did you construct the rays? Why did you construct the points on them? Are they free points or constrained by some relationship?"

Finally, you must share with the reader why you are confident that every point on the locus satisfies the condition it is supposed to satisfy.

Grade: 75% (C+)