

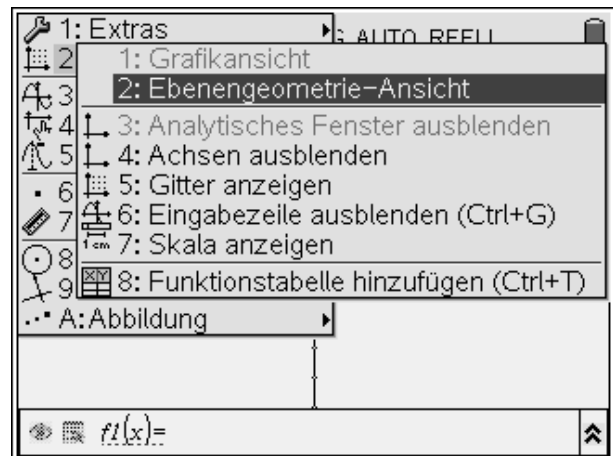
Example 2: chicken fence





Geometrical solution - long version




First open a new window and add the application **Graphs & Geometry**.

In the first step (as we build a purely geometric construction) switch off the coordinate system and switch to the view of plane geometry.

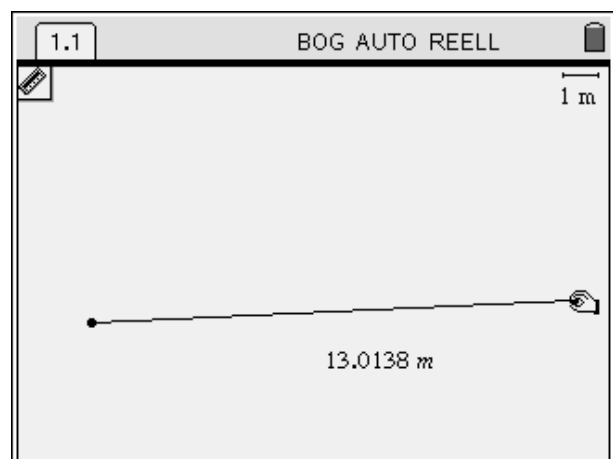
[, 2, 2: plane geometry]






Draw a line [, 6: Points & Lines, 5: Segment]. Therefore click  on the two points which are intended to limit the line. Measure the length of the line [, 7: Measurement, 1: Length] by clicking  on the line. The next click will place the measured length.

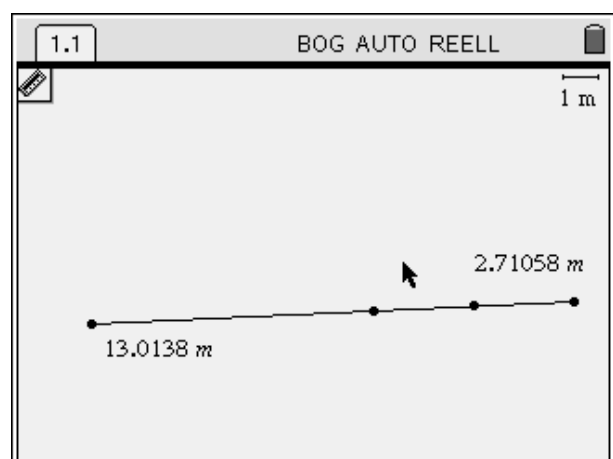
To work in the scale of 10 m, the scale should be changed. Press  to cancel the previous action and click  on the scale at top right. With the help of the keyboard () you can change the scale to 1 m. Confirm your entry with [**.**].


If you want to - but this is irrelevant for the solution - you can adapt the length of the line to 10 m.





And now comes the most important step: Construct a point on the line [, 6: Points & Lines, 2: Point on] and after that construct the midpoint between the line barrier and the point on the line [, 9: Constructions, 5: Mid Point]. Therefore click  on the two points one after another.

This has created a division that corresponds exactly to the partitioning of the fence: two sections of equal length for the sides, and a third part for the front.



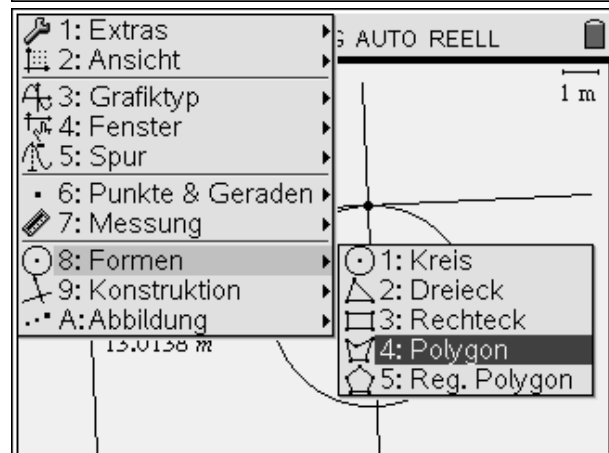
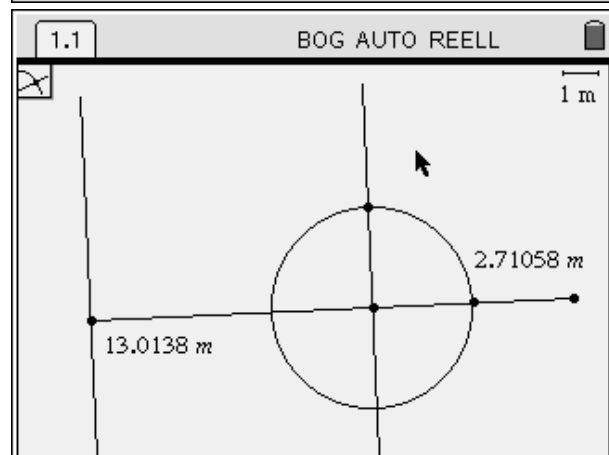
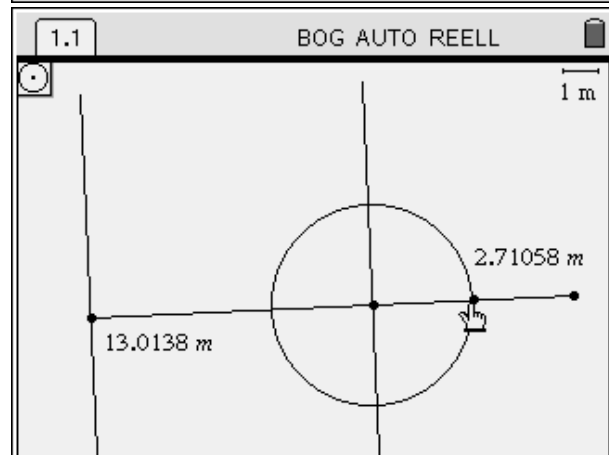
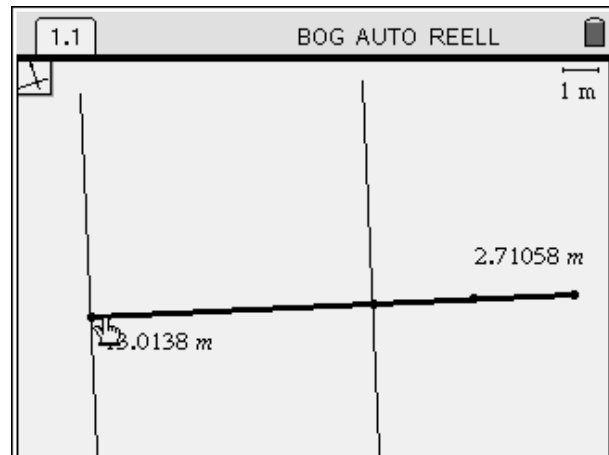
Now the rectangle (the fence) should be constructed. This can be done with the help of a perpendicular line [menu, 9: Constructions, 1:Perpendicular]. First click  on the particular point (see illustration at the right) and then on the line.


The length of the side wall will now be plotted on the perpendicular line. Therefore we use a circle [menu, 8: Shapes, 1: Circle]. First, click  on the center, then on a point on the circle line to determine the radius.

Now you determine the intersection point between the circle and perpendicular line [menu, 6: Points & Lines, 3: Intersection Point(s)] by clicking  the intersecting objects one after another. After that you have to construct another perpendicular line through this point [menu, 9: Constructions, 1:Perpendicular] to complete the rectangle. To achieve this, first click on the intersection point and the just constructed perpendicular line.




Now the missing points of the rectangle can be constructed easily. Draw a perpendicular line to the intersection point and determine the fourth corner of the rectangle with the help of the options of intersections. You can see a description of these options at the top.




The rectangle is constructed as a polygon. You will find the placement in the menu on the right [menu, 8: Shapes, 4: Polygon].



Click on the four corners of the rectangle one after another. Mark the last point with a double click .

If you want, you can color the rectangle.

Move the pointer on one side of the rectangle and go to the attributes with [ , 2: attributes]. The coloring can be changed by pressing the cursor keys. With [>] the choice will be confirmed.

Finally, you have to measure the area [, 7: Measurement, 2: Area] and vary the dimensions until you have narrowed the maximum. Therefore you click and move the point ([, 1: Pointer], go with the pointer on the point and click  the button for about one second. Then control the point with the cursor keys).

To solve the given problem, you should now - as already mentioned at the beginning – set the length of the line at 10 meters.

