Geogebra Day 15: Similar Triangles with Mirrors

Theory

One can use a mirror and a tape measure to calculate the height of tall objects

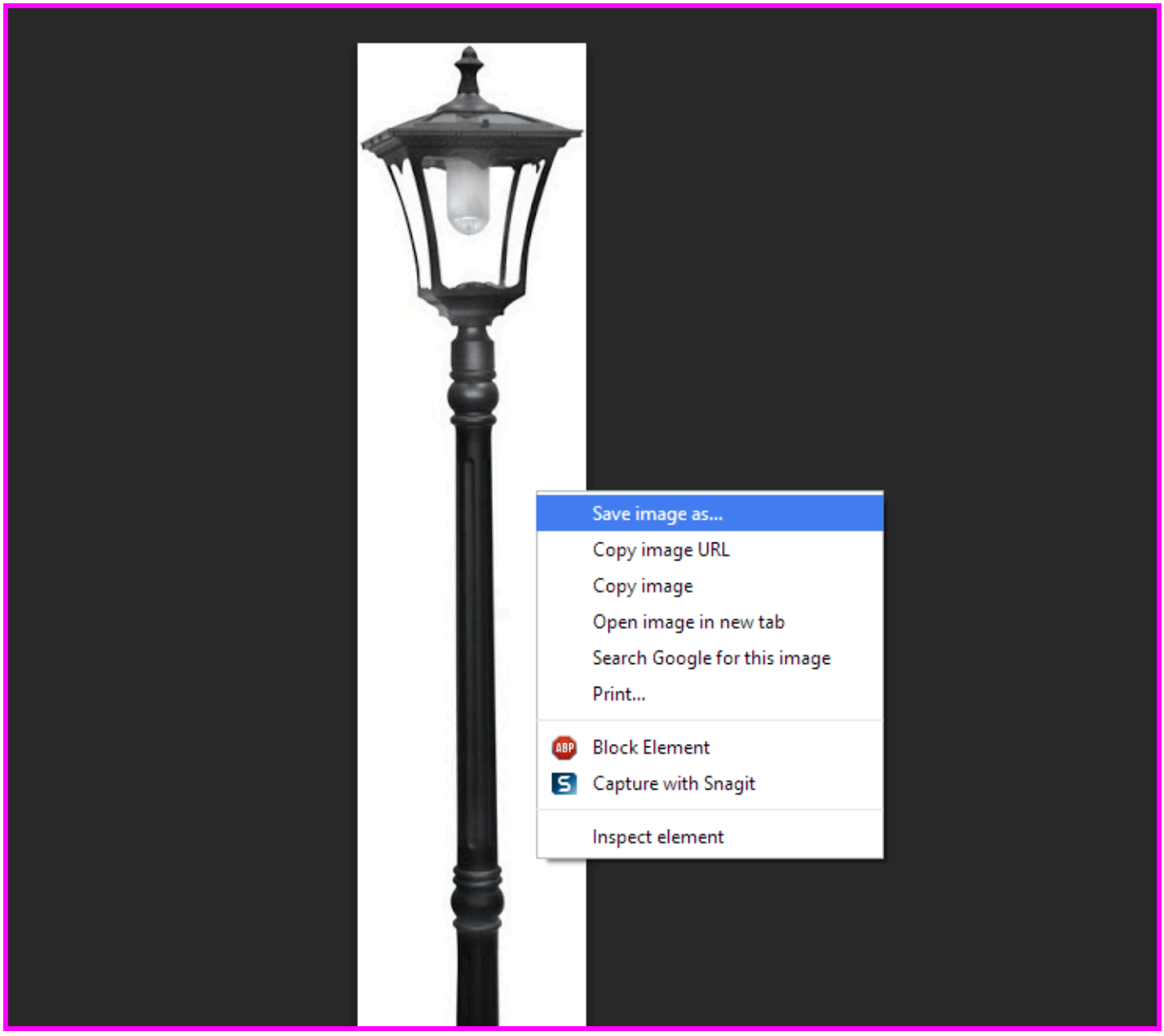
Summary

We'll draw the situation in Geogebra, and use it to answer questions next time

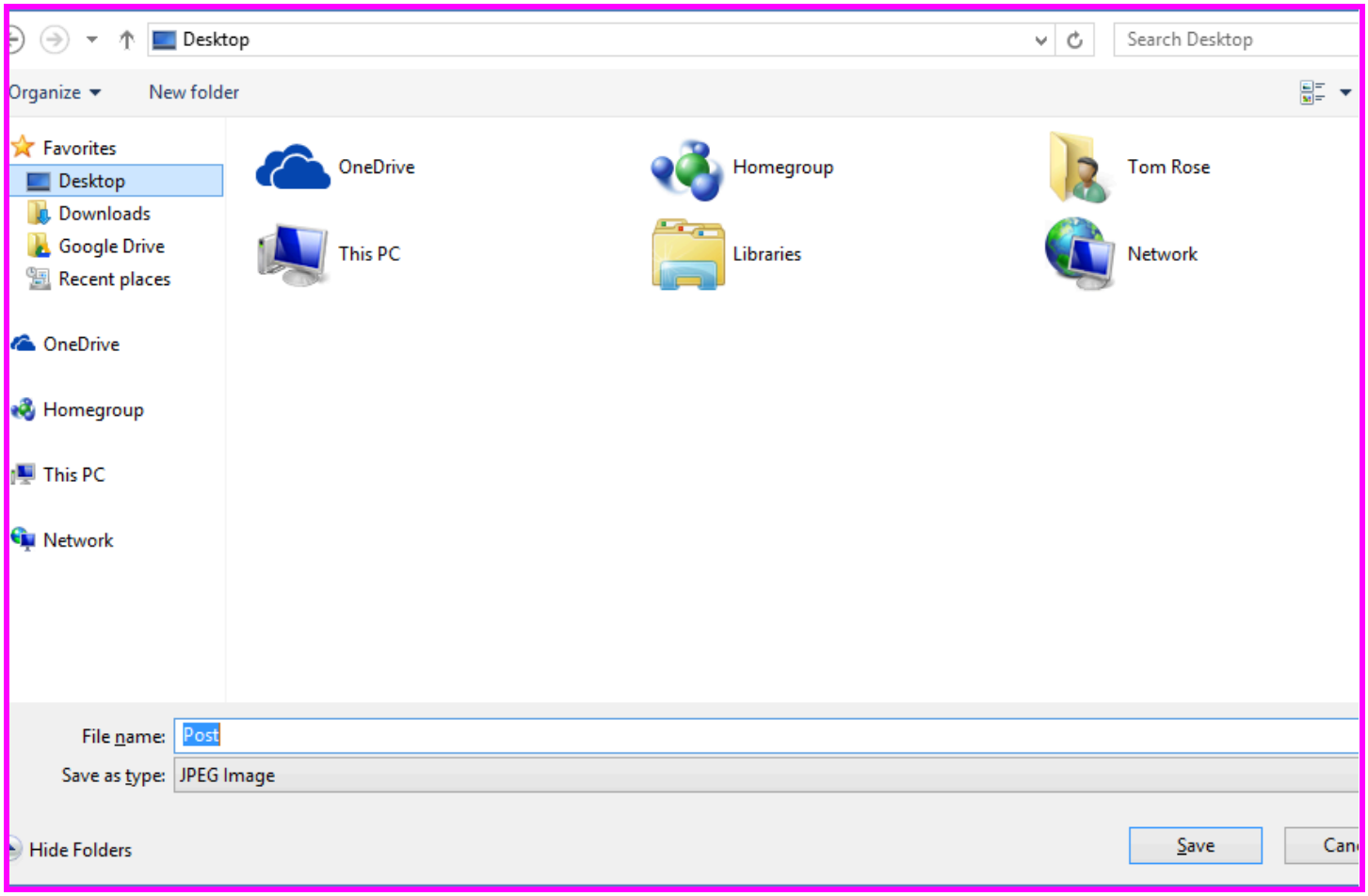
1. Go to my picture of a light post at this link.

https://drive.google.com/file/d/0B7-2kQ-HqqN7NExCaWhwWjdsODA/view?usp=sharing

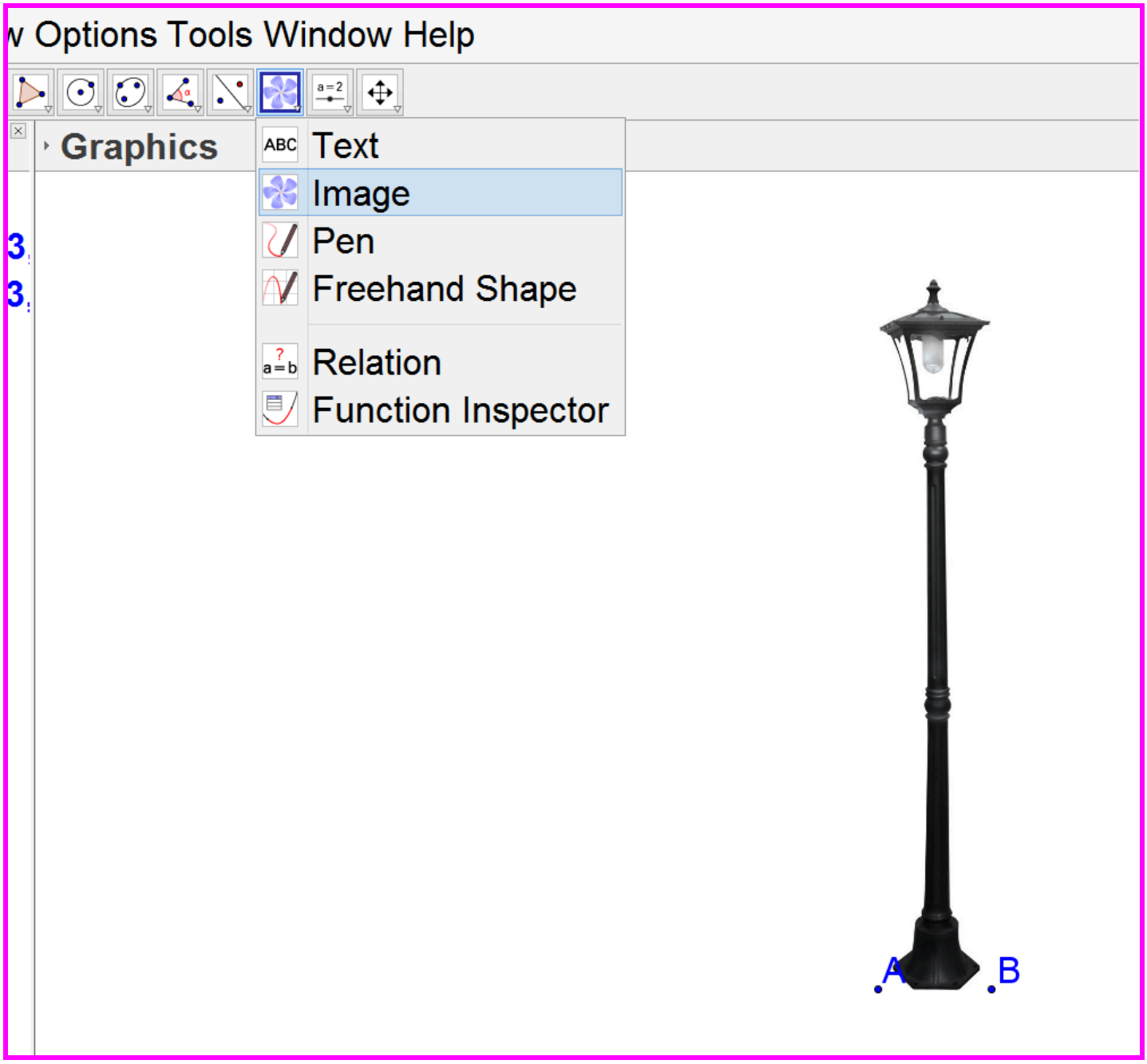
Right click on the picture and select "**Save Image As**"



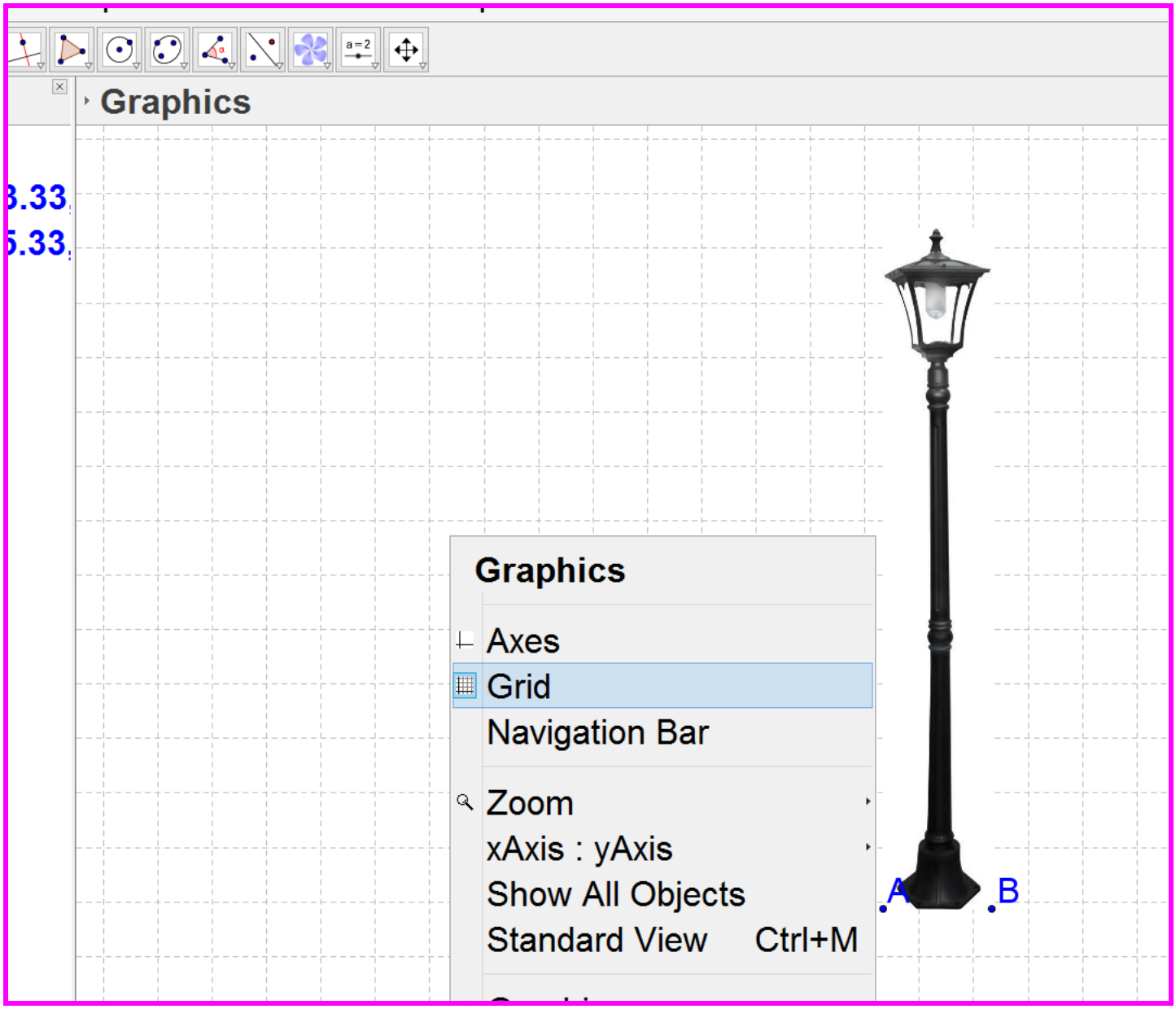
2. Save the picture to your desktop.



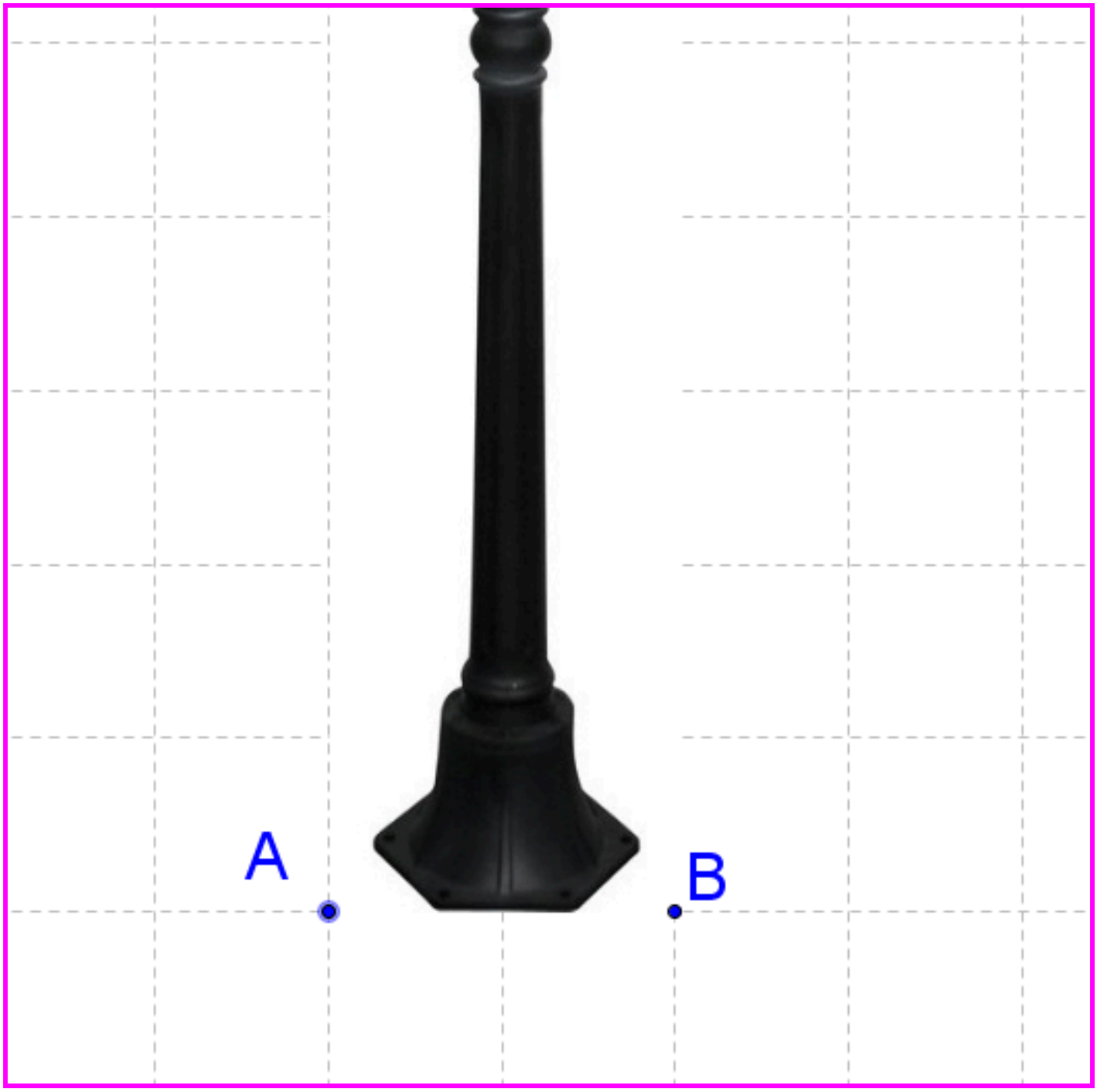
3. Using the “**Image**” command, insert your picture into GeoGebra



4. Turn on the grid by right clicking and selecting “**Grid**” (if it’s not working, click somewhere and hit esc a few times, then try again)

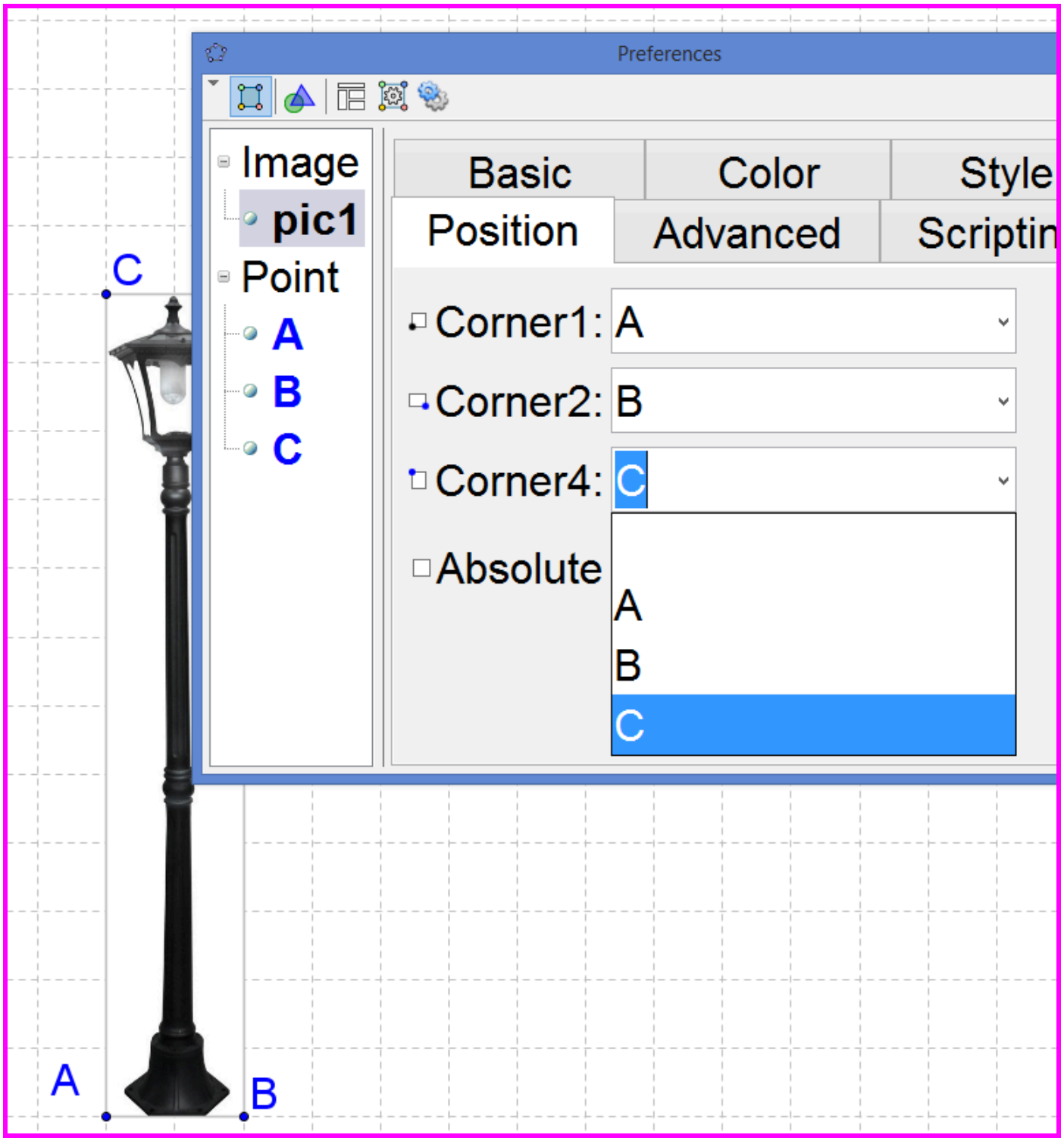


5. Move the points on the bottom of your picture so that they snap to the grid

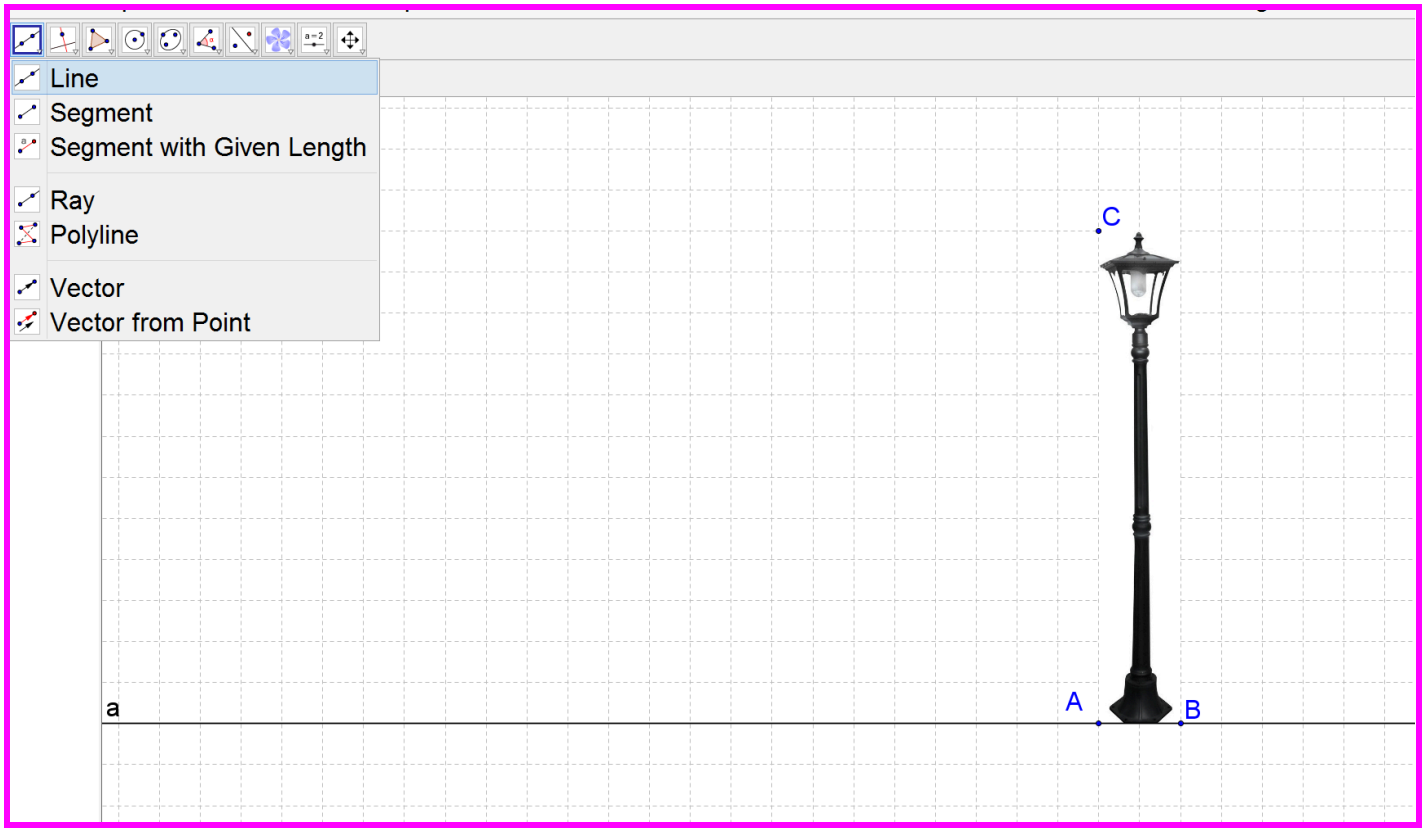


6. Using the “**Point**” command, create a point somewhere **on the grid** around the top left of your picture.

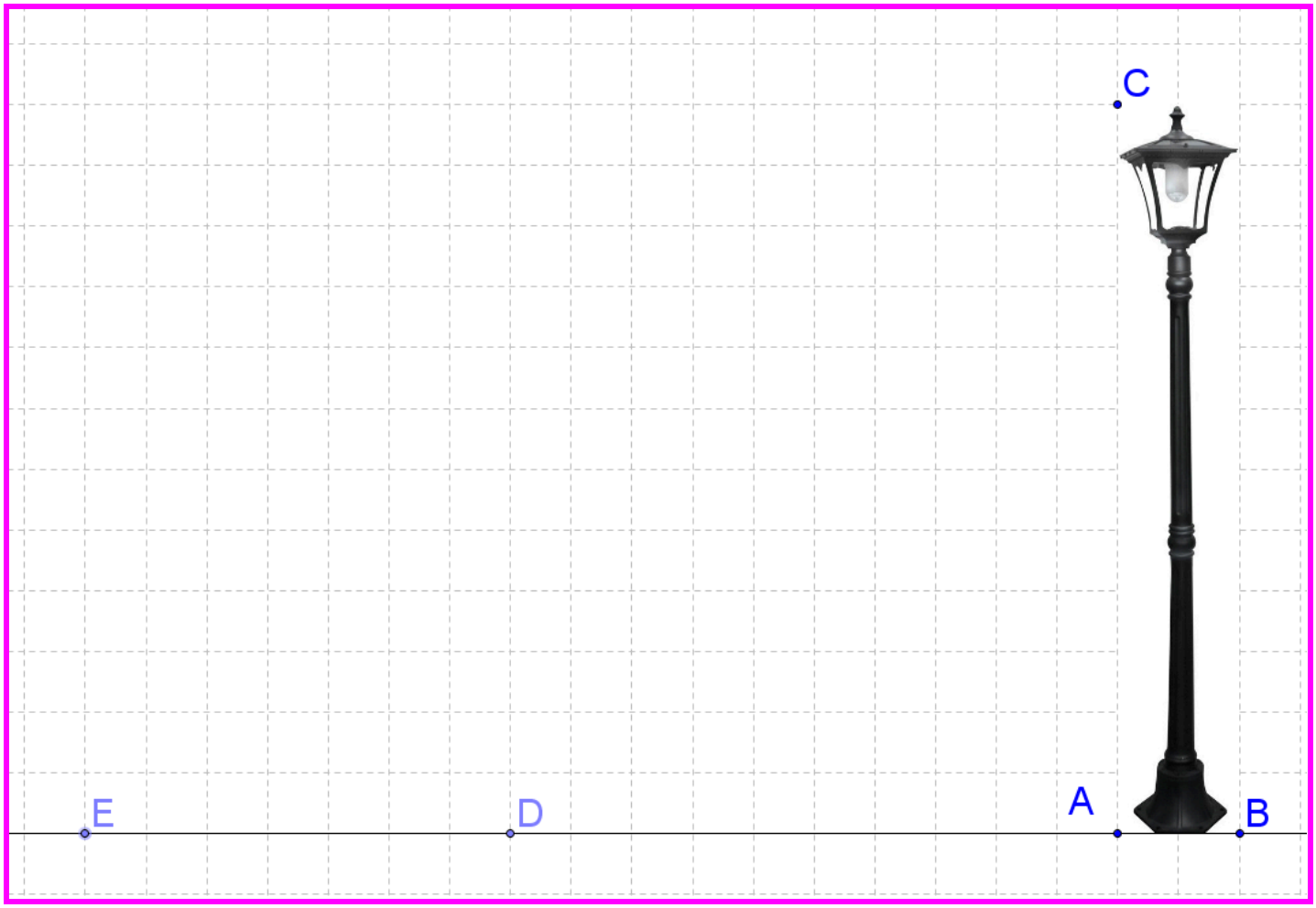
7. Right click on your picture and select “**Object Properties**”. In the “**Position**” tab, go to Corner4 and select the point you put at the top left corner.



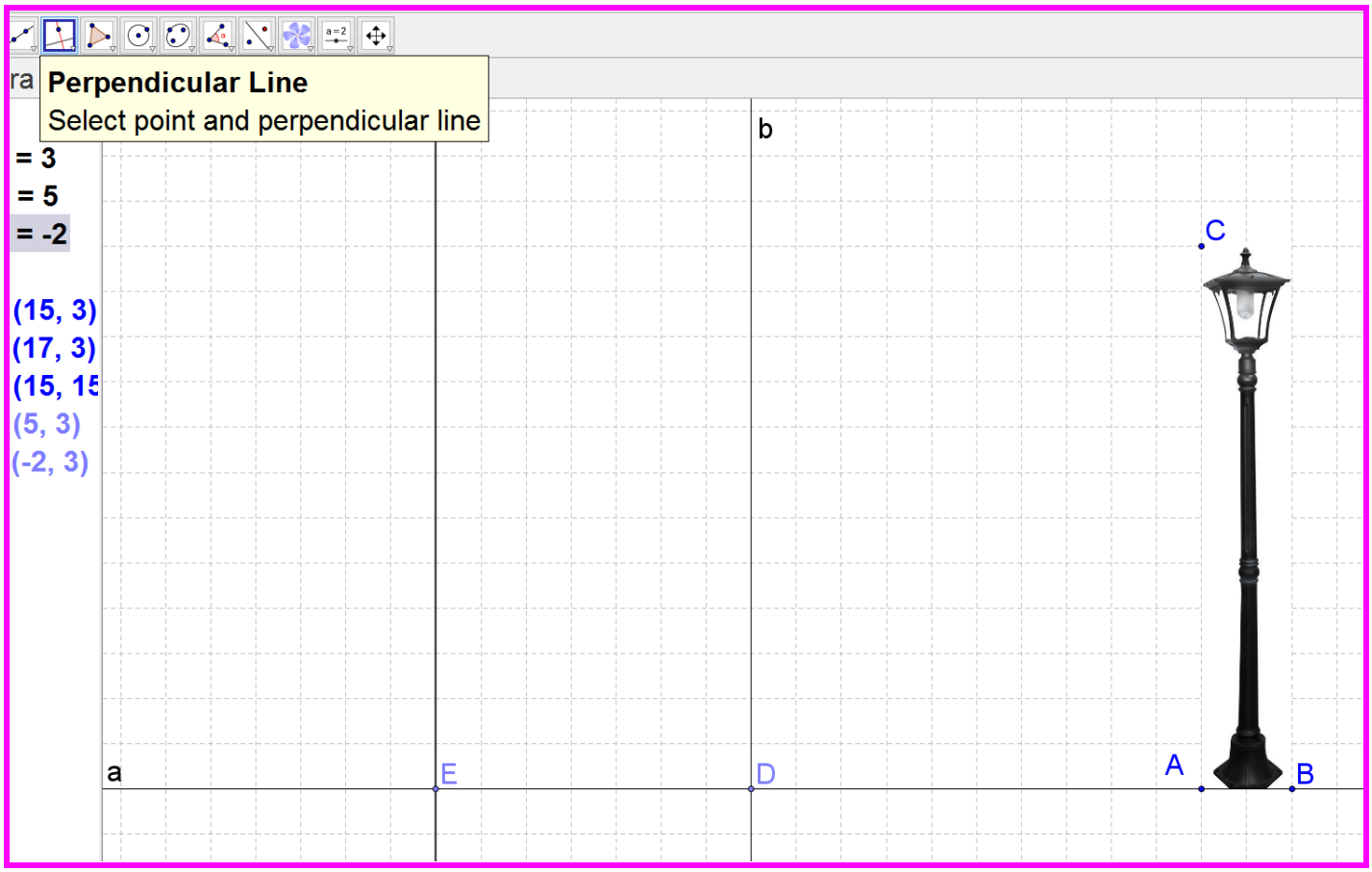
8. Using the “**Line**” command, create a line that goes through the two bottom points of your picture.



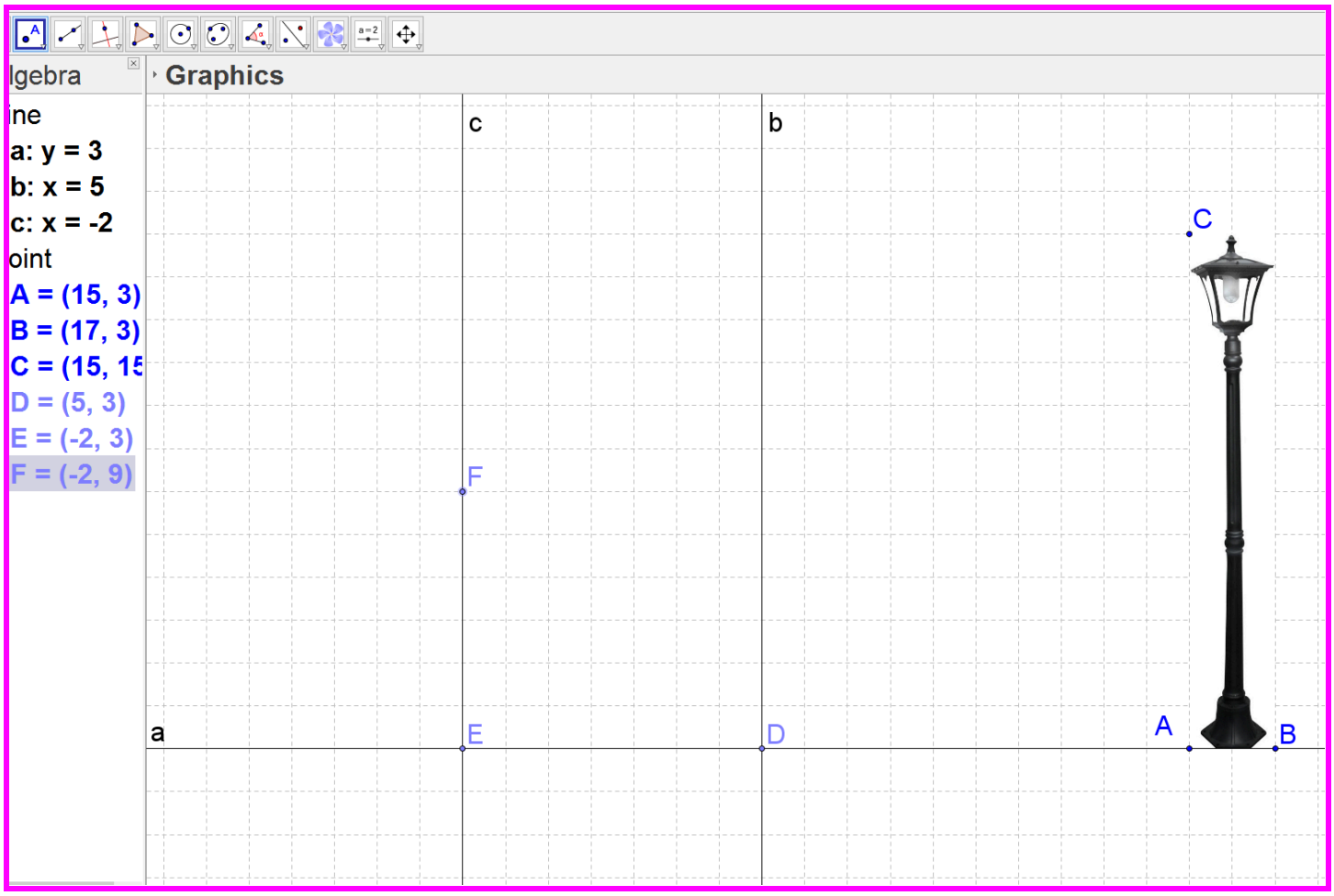
9. Using the “**Point**” command, create two more points on your line.



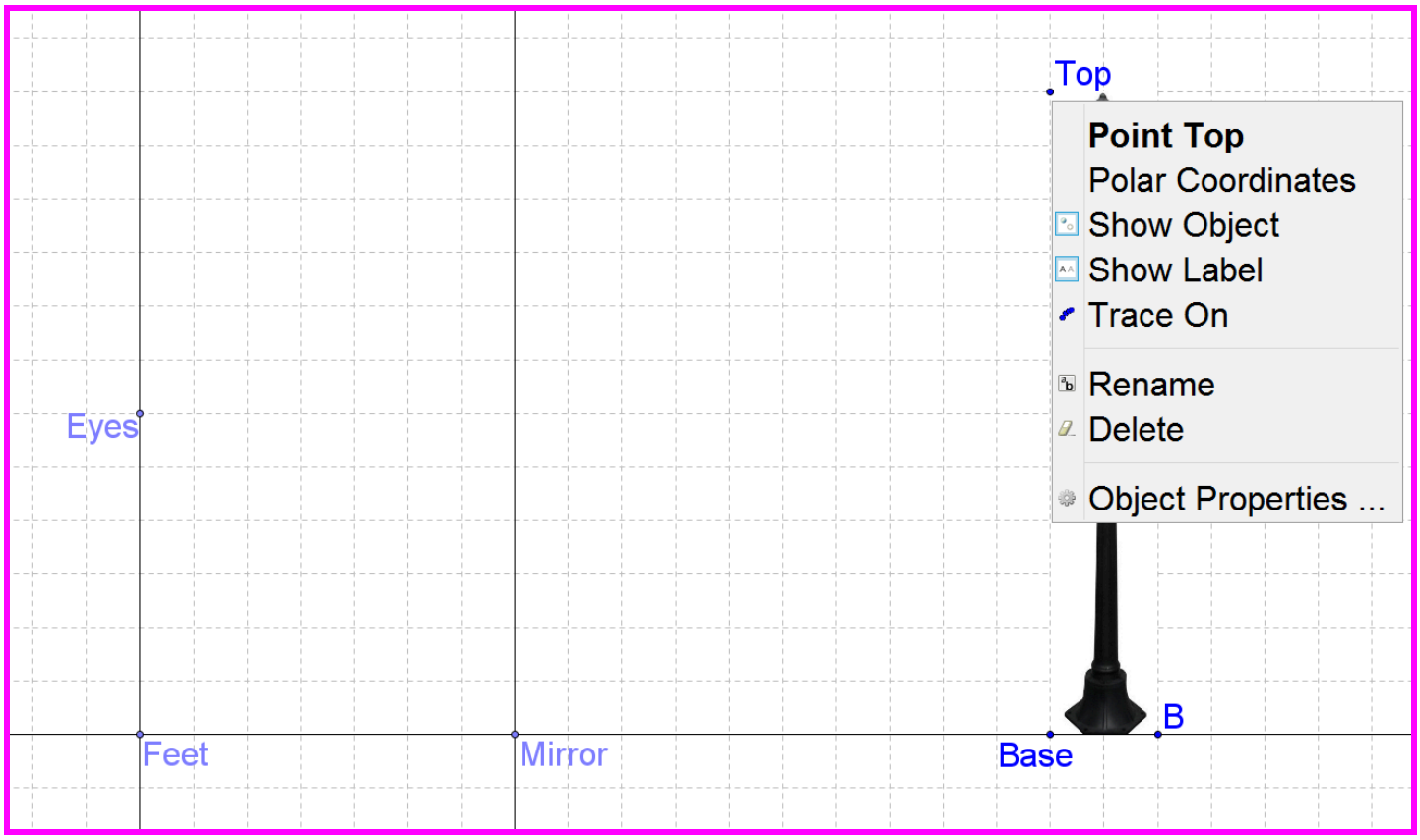
10. Using the “**Perpendicular Line**” command, create perpendicular lines through your two points.



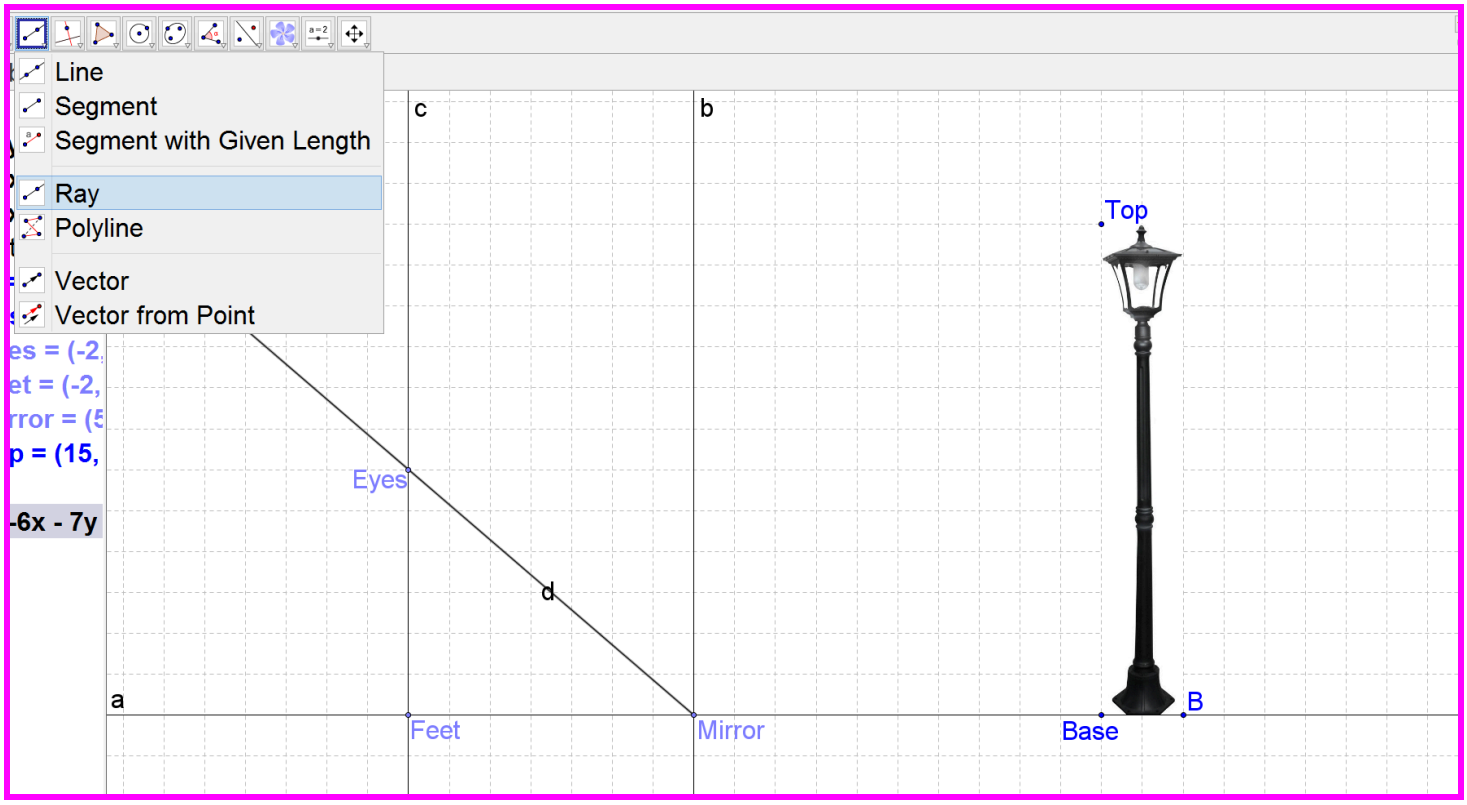
11. Using the “**Point**” command, create one more point on the left perpendicular line.



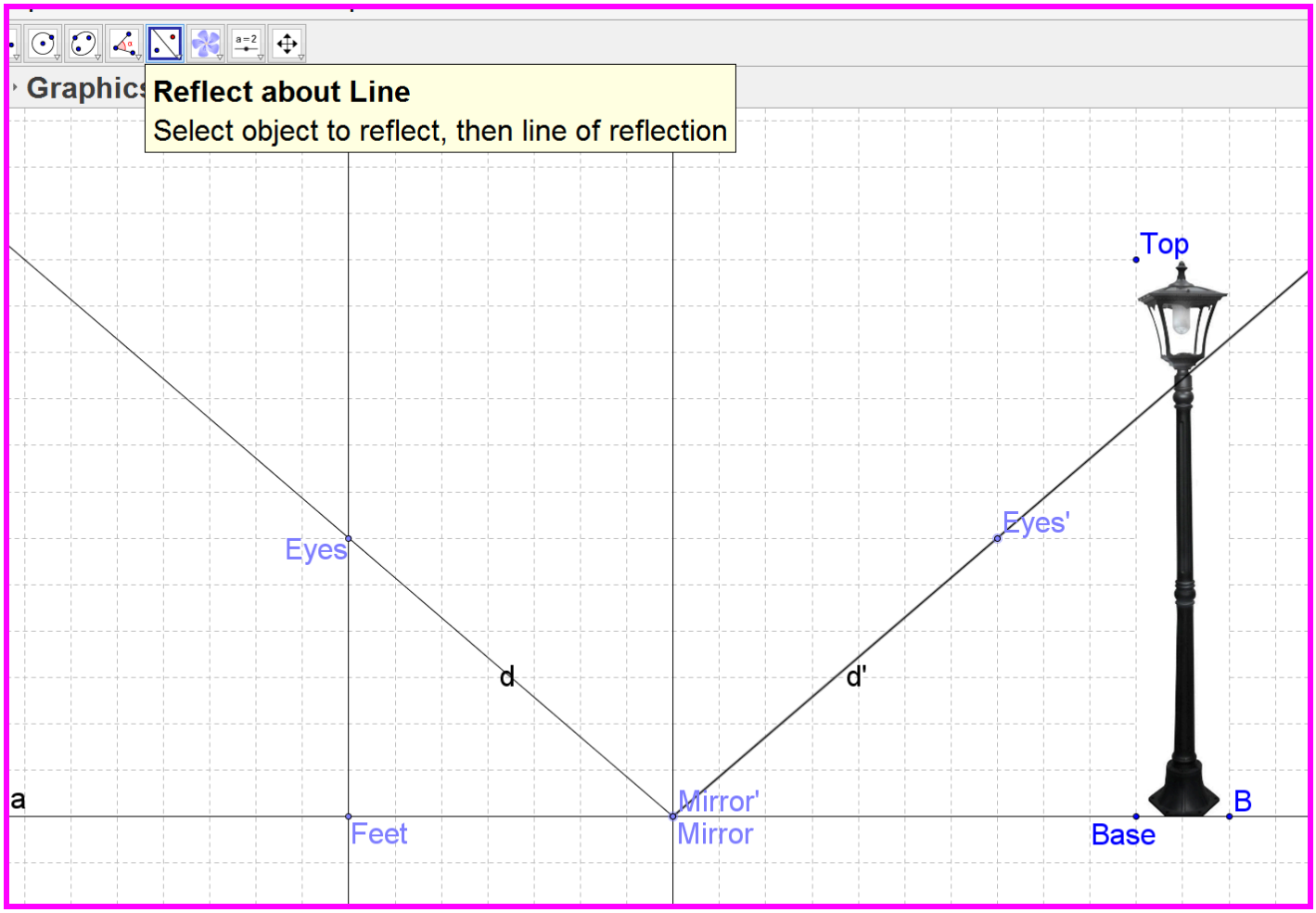
12. Change the names of points by right clicking and selecting "**Rename**". Change the names to **Top, Base, Mirror, Feet,** and **Eyes** as shown



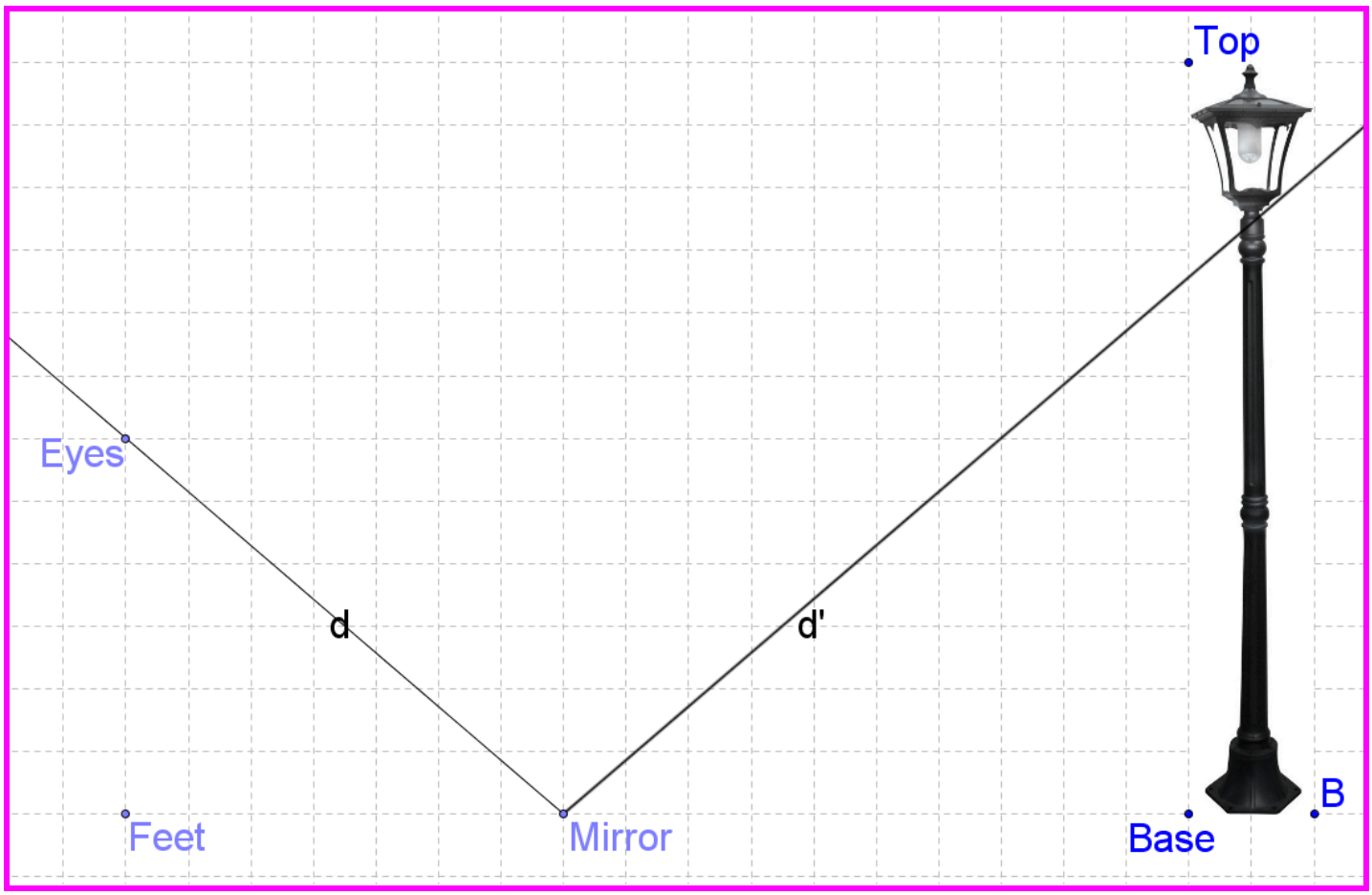
13. Using the “**Ray**” command, create a ray that starts at **mirror** and goes through **eyes**.



14. Using the “**Reflect about Line**” command, reflect the ray you just created.



15. Hide your two perpendicular lines, base line, Mirror' point, and Eyes' point by right clicking on the objects and selecting "**Show Object**".



16. Using the “**Segment**” command, connect Eyes to Feet, Feet to Mirror, and Mirror to Base. We’ll stop here for today.