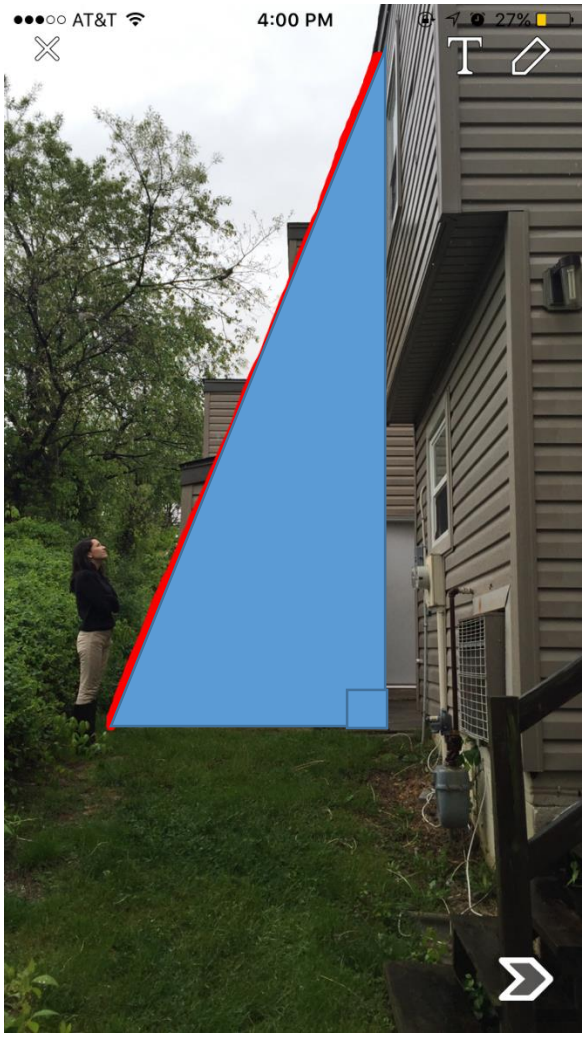
Paola Marquez

Math-153-Precalculus II

Professor Vaughan

Project #2: How High Is It?

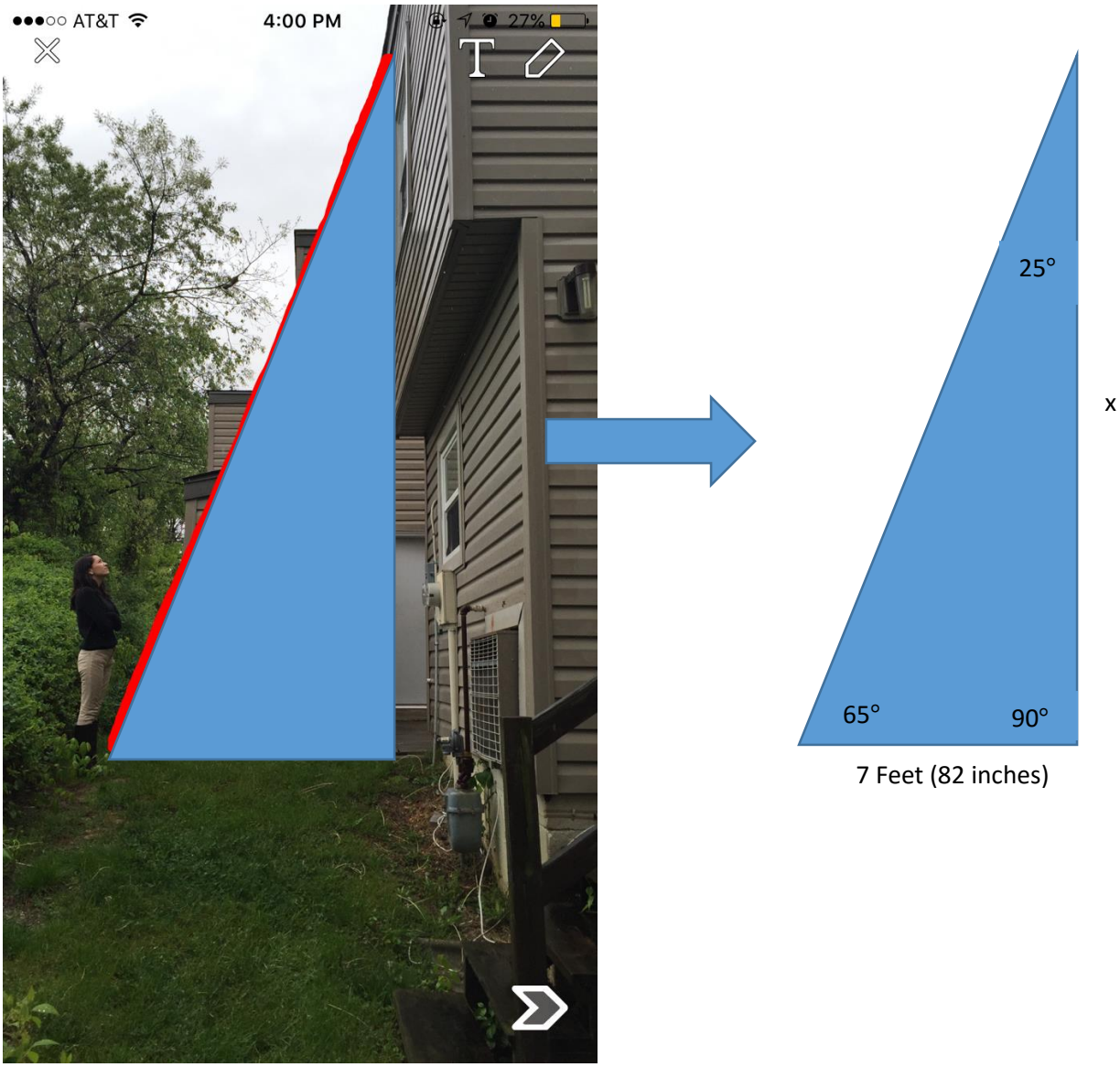


Introduction

For the package, I have selected a small townhouse to measure its height. Its significance pertains to whether I want to choose it as my new home—a friend and I will have the choice of whether we want to reside in it, and how much room it is going to give us is the optimum question. If it has too much room for two people, then it will be a waste of time and we could find another place with fewer space and therefore less money. If it is not enough space, then our living situation will be uncomfortable and will no suit us. Two sources I used to calculate the height of this townhouse was a measuring tape to easily measure the small space between the building and I (the base of the triangle demonstrated above), and an online protractor to measure the angle of elevation from where I am standing. The online protractor was found from a

technology from Geogebra.com. In addition, I already knew one angle was 90 degrees from the rules of Right Triangles, and used the knowledge that a triangle must have its angles measured perfectly to 180 degrees to find the third angle. I then proceeded to use the Law of Sines to calculate the rest.

Procedure



To find x, the height of the tree, the angle opposite of it must be known, as well as another side and its opposite angle, which was 25° and its side, 7 feet (82 inches). 25° was found by finding 65°, which I stated I found using the online protractor. After you have all this information, you can use the Law of Sines to calculate side x.

There may have been some inaccuracies with my physical measuring of the base of the triangle when I used the measuring tape. I used my own perception to keep the tape straight, but that could have been slightly invalid. The 65° angle, although, was calculated accurately because it

was done digitally. The rest was done by a calculator, so my results could be only slightly wrong, and not by much numbers. The possible ranges of the sides could only be feet and inches, and I used both.

Conclusion

It was concluded that the height of the townhome was 15 feet, or 180 inches (calculations on separate document). I chose Geogebra.com to find my calculation because it provided all the materials I needed in one space, and as well as a variety of them. I also used the Genius Scan App to report my hand written calculations.

The difficulties I encountered was which technology to use, because I wasn't familiar with much math programs online. For next time, I would probably find it easier to handwrite everything, but using technology helps for future real world calculations.