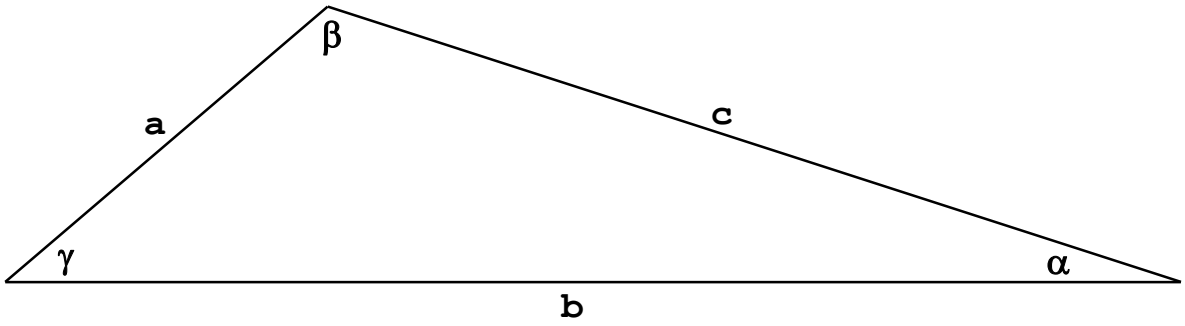
CSC 2262, Fall 2021, Lab 1



In the triangle shown above, two sides and the angle between them are given: a=8, b=22 and γ=41°. Write a MATLAB program to calculate and print the other side c and the other two angles β and α, where c, β and α are given by

$$c = \sqrt{a^2 + b^2 - 2ab\cos\gamma}$$

$$\beta = \cos^{-1}\left(\frac{a^2 + c^2 - b^2}{2ac}\right)$$

$$\alpha = 180^\circ - \beta - \gamma$$

The output of this program should look like this:

```
c =
   16.8030
alpha =
   18.2011
beta =
  120.7989
```

NOTE: Angles in a MATLAB program must in radians, not degrees. You have to convert the angle γ from degrees to radians by multiplying by π and dividing by 180. In MATLAB, π is given by pi.

NOTE: When you type the formula for α, you have to replace 180° by pi.

NOTE: When you print the angles α and β, you have to convert them from radians to degrees by multiplying by 180 and dividing by pi, because the values of α and β shown on the assignment sheet are in degrees.

NOTE: IN MATLAB, the names of the square root function and the inverse cosine function ($\cos^{-1}$) are sqrt and acos .

NOTE: In the command window, at the command prompt (>>), type

```
format compact
```

and press enter, so that your output will look like the output shown above.