ASSIGNMENT-1

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Download all python codes from

https://github.com/ThurpuNaveena/Assignment−1/blob/main/ASSIGNMENT1/assignment1.py

and latex-tikz codes from

https://github.com/ThurpuNaveena/Assignment−1/blob/main/ASSIGNMENT1/main.tex

1 QUESTION NO-2.2

Construct an isosceles triangle whose base is a = 8cm and altitude AD= h=4cm.

2 SOLUTION

Let $\triangle ABC$ be the isosceles triangle
Base BC = 8 and Altitude AD = 4
AD is the perpendicular bisector of BC

$$a = 8,\ h = 4 \tag{2.0.1}$$

we use the Pythagoras theorem,

$$c^2 = a^2 + b^2 \tag{2.0.2}$$
$$\implies c^2 = 4^2 + 4^2 \tag{2.0.3}$$
$$\implies c^2 = 32 \tag{2.0.4}$$
$$\implies c = 5.6 \tag{2.0.5}$$

$$\mathbf{b} = \mathbf{c} \tag{2.0.6}$$

$$\mathbf{AB} = \mathbf{AC} \tag{2.0.7}$$

Two sides are equal so $\triangle ABC$ is isosceles triangle
plot of the isosceles triangle$\triangle ABC$

$$\mathbf{A} = \begin{pmatrix} 4 \\ 4 \end{pmatrix}, \mathbf{B} = \begin{pmatrix} 0 \\ 0 \end{pmatrix}, \mathbf{C} = \begin{pmatrix} 8 \\ 0 \end{pmatrix} \tag{2.0.8}$$

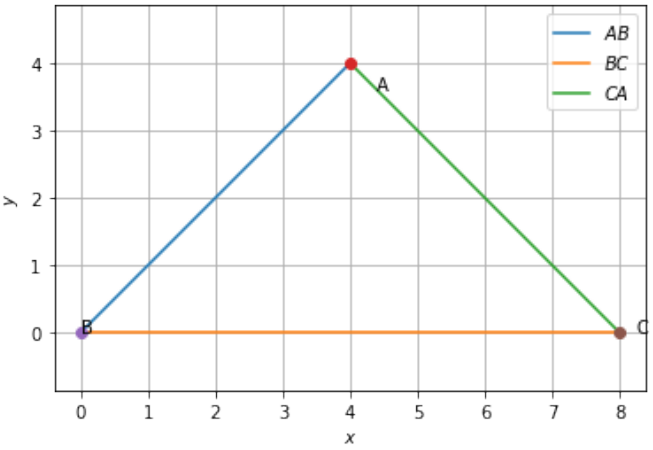

Fig. 2.1: isosceles triangle$\triangle ABC$