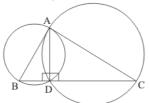


Circles Ex 16.5 Q24

Answer:

We have to prove that the circles on any two sides as diameter intersect each other on third side.



Let ABC be a triangle, where AD is perpendicular to BC. That is,

 $\angle BDA = \angle ADC = 90^{\circ}$

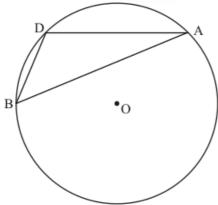
So, circles described on AB and AC pass through a point D on BC

Hence, the circles on any two sides as diameter intersect each other on third side.

Circles Ex 16.5 Q25

Answer:

We have to prove $\angle ADB > 90^{\circ}$



Construction: - draw a circle having center ${\it O}$ and ${\it A}$, ${\it D}$ and ${\it B}$ point on

Circumference and AB is not passing through the center

So
$$\angle ADB = \frac{1}{2} \text{ reflex } \angle AOB > \frac{1}{2} (180^{\circ})$$

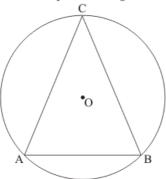
 $\angle ADB > 90^{\circ}$

Hence $\angle ADB > 90^{\circ}$ Proved.

Circles Ex 16.5 Q26

Answer:

We have to prove that angle form by segment is greater than semi circle angle



Let ${\it O}$ is the center of circle and ${\it AB}$ is a chord.

So

$$\angle ACB = \frac{1}{2} \angle AOB < \frac{1}{2} (180^{\circ}) < 90^{\circ}$$

$$\Rightarrow \angle ACB < 90^{\circ}$$

Hence

$$\angle ACB < 90^{\circ}$$

******* END *******