

Exercise 1.3

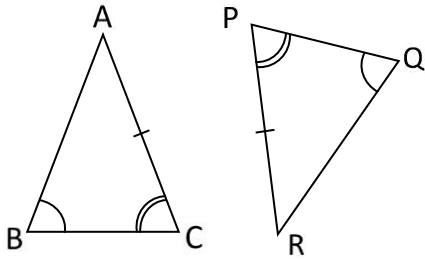
1. If $x = 2$ and $y = 0$ verify that $(3x + 5y)(2x + y) = 6x^2 + 13xy + 5y^2$.
2. Find the value of $a^2 + b^2$ when $a - b = 2$ and $ab = 48$.
3. Find the value of $x - y$ when $x^2 + y^2 = 40$ and $xy = 2$.

Congruence of Triangles

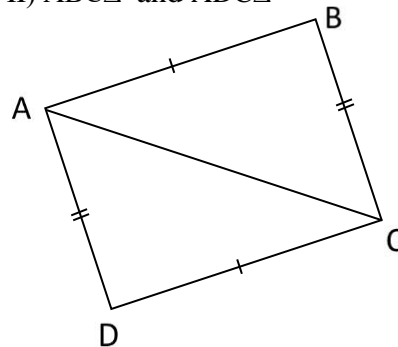
Exercise 2.1

1. Prove that the following pairs of triangles are congruent under suitable case and write corresponding elements.

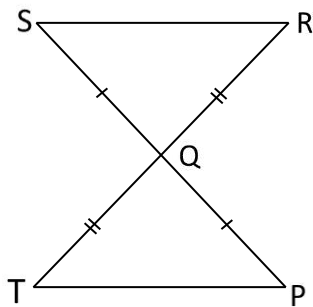
I) $ABC\Delta$ and $PQR\Delta$



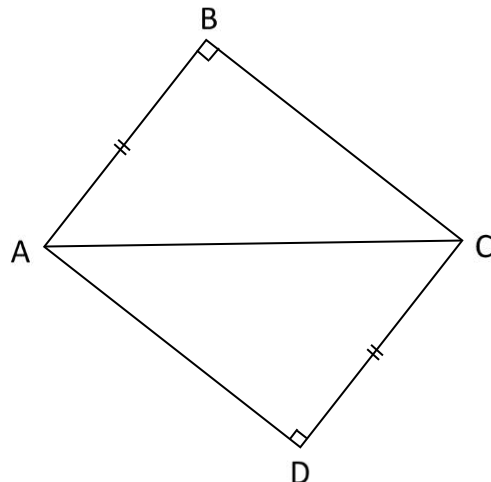
II) $ABC\Delta$ and $ADC\Delta$



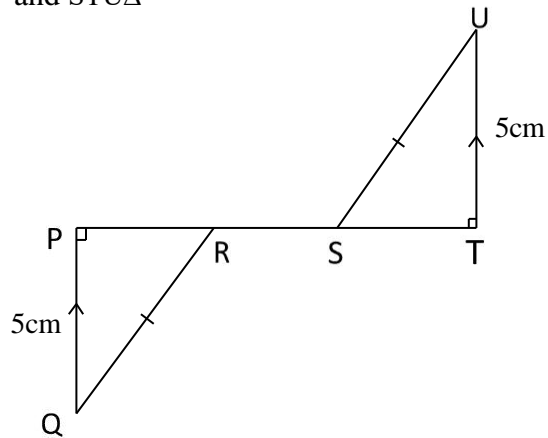
III) $SQR\Delta$ and $TQP\Delta$



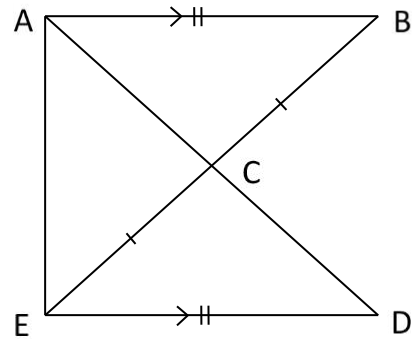
IV) $ABC\Delta$ and $ADC\Delta$



V) $PQR\Delta$ and $STUA\Delta$



VI) $ABC\Delta$ and $EDC\Delta$

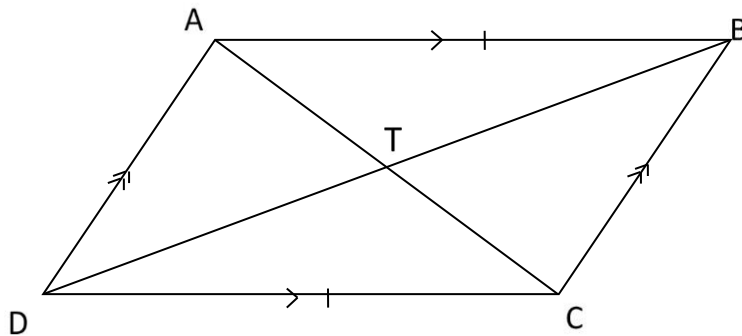


Exercise 2.2

- In the following parallelogram $ABCD$ in the figure, $AB \parallel DC$ and $DA \parallel BC$ and $AB = DC$. In the foll $AX \parallel YB$ and $AX = YB$. Show that the straight lines AB and YX bisect each other at P .

I) Show that $ATB \Delta \cong DTC \Delta$.

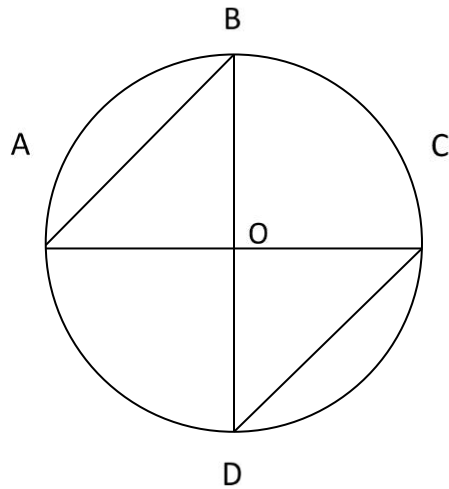
II) Show that the diagonals of parallelogram $ABCD$ bisect each other.



- In the shown figure O is the center of the circle. A, B, C and D are the points marked on the circle.

I) Show that $AOB \Delta \cong DOC \Delta$

II) Show that $AB \parallel DC$

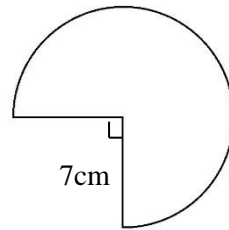
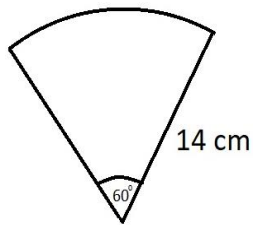


Area

Exercise 3.1

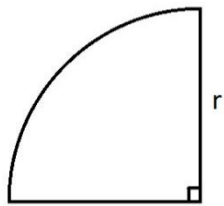
1. Find the area of each sector.

I) II)



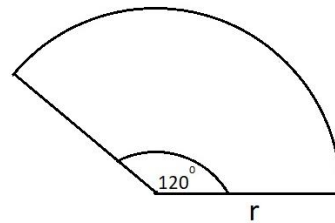
2. Find the radius of each sector.

I)



Area = 231cm^2

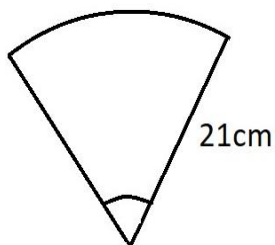
II)



Area = 462m^2

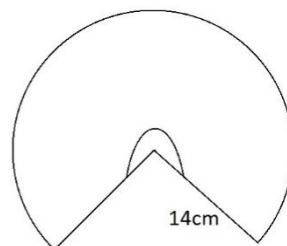
3. Find the angle at the centre of each sector.

I)



II)

θ



$$\text{Area} = 231\text{cm}^2$$

$$\text{Area} = 462\text{cm}^2$$

Exercise 3.2

1. The figure denotes a wall decoration consisting of two rectangles $ABOC$ and $FEDO$ and two sectors of a circle COD and BOF which the center is O . Prove that the area of the wall decoration is 427 cm^2

