# WANDOOR GANITHAM – S.S.L.C STUDY MATERIAL 2021

## FOCUS AREA - QUESTION BANK - CIRCLES

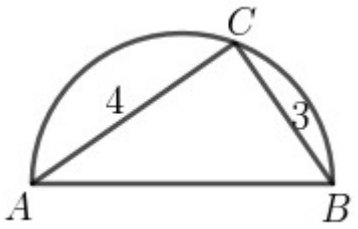
**1**

*In the figure AB is the diameter of the circle .*

**AC = 4 *cm* , BC = 3 *cm***

**a) *What is the measure of* < *ACB* ?**

**b) *What is the length of AB* ?**



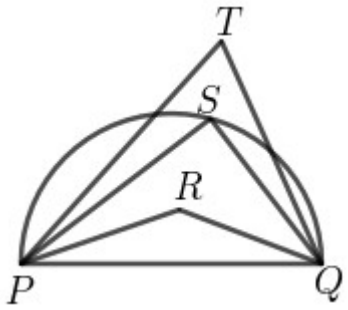

**2**

***In the figure PQ is the diameter of the semicircle .***

***The measures of* < *R* , < *S* , < *T* *are in arithmetic sequence* . < *T* = 60 $^0$**

**a) *What is the measure of* < *S* ?**

**b) *What is the measure of* < *R* ?**




**3**

**< ABC = 75 $^0$ , < ADC = 90 $^0$ , <AEC = 105 $^0$ . *A circle is drawn with AC as diameter.***

**a) *The position of D is* .....**

**( *inside the circle , outside the circle , on the circle* )**

**b) *The position of B is* .....**

**( *inside the circle , outside the circle , on the circle* )**

**c) *The position of E is* .....**

**( *inside the circle , outside the circle , on the circle* )**

**4**

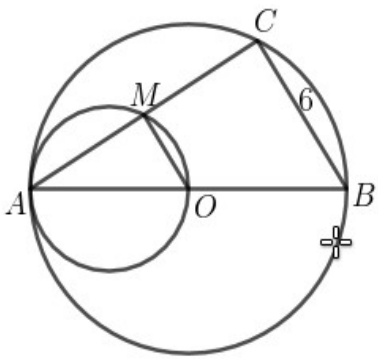
***In the figure O is the centre of the larger circle .***

***OA is the diameter of the smaller circle . AB* = 10 *cm***

***BC* = 6 *cm***

**a) *What is the measure of* < *ACB* ?**

**b) *What is the measure of* < *AMO* ?**



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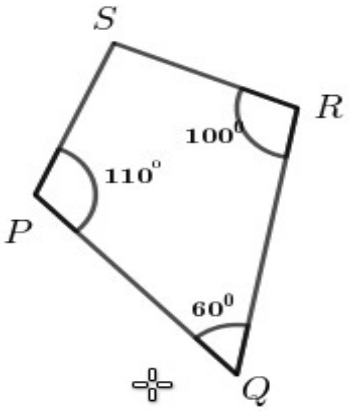
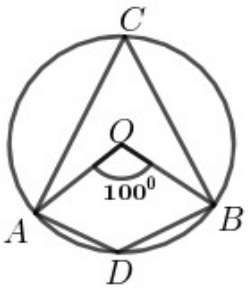
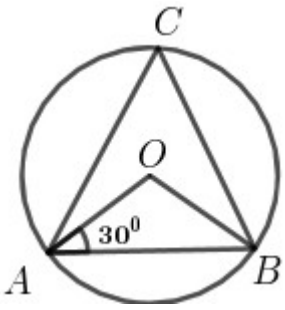
| | **c)** ***What is the length of AM ?*** <br> **d)** ***What is the perimeter of the triangle AMO ?*** |
| **5** | ***In the figure*** $< P = 110^0$ , $< Q = 60^0$ , $< R = 100^0$ <br> **a)** ***What is the measure of*** $< S$ ? <br> **b)** ***The position of S if a circle is drawn with PR as diameter is .....*** <br> **( *inside the circle , outside the circle , on the circle* )** <br> **c)** ***The position of Q if a circle is drawn with PR as diameter is .....*** <br> **( *inside the circle , outside the circle , on the circle* )** <br>   |
| **6** | ***In the figure O is the centre of the circle .*** $< AOB = 100^0$ <br> **a)** ***What is the measure of*** $< ACB$ ? <br> **b)** ***What is the measure of*** $< ADB$ ? <br>   |
| **7** | ***In the figure O is the centre of the circle . OP = PQ*** <br> **a)** ***What is the measure of*** $< POQ$ ? <br> **b)** ***What is the measure of*** $< PRQ$ ? <br>   |
| **8** | ***In the figure O is the centre of the circle .*** $< OAB = 30^0$ <br> **a)** ***What is the measure of*** $< ABO$ ? <br> **b)** ***What is the measure of*** $< AOB$ ? <br> **c)** ***What is the measure of*** $< ACB$ ? <br>   |

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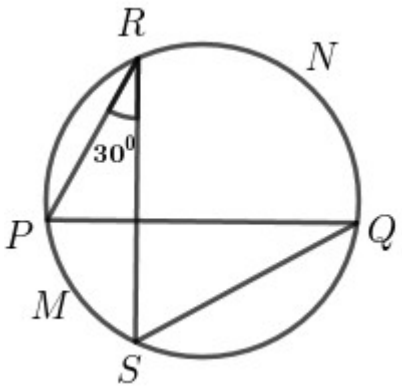
| 9 | *In the figure O is the centre of the circle . < LNM* = 30 $^0$<br>a) *What is the measure of < LOM ?*<br>b) *What is the measure of < OLM ?*<br>c) *Prove that LOM is an equilateral triangle ?* |
| 10 | *In the figure O is the centre of the circle . < OAC* = 20 $^0$ ,<br>*< OBC* = 30 $^0$<br>a) *What is the measure of < ACO ?*<br>b) *What is the measure of < AOB ?*<br>c) *What is the measure of < OAB ?* |
| 11 | *In the figure O is the centre of the circle . < OXY* = 50 $^0$ ,<br>*< OYZ* = 25 $^0$<br>a) *What is the measure of < OYX ?*<br>b) *What is the measure of < XOY ?*<br>c) *What is the measure of < XZY ?*<br>d) *What is the measure of < OXZ ?* |
| 12 | *In the figure O is the centre of the circle . < BOC* = 100 $^0$<br>*< AOC* = 120 $^0$<br>a) *What is the measure of < BAC ?*<br>b) *What is the measure of < ACB ?* |
| 13 | *In the figure O is the centre of the circle .*<br>*< AOB* = 100 $^0$<br>a) *What is the measure of < ACB ?*<br>b) *What is the measure of < PDQ ?*<br>c) *< CQD + < CPD* = ..... |

**14** *In the figure the chords PQ and RS are perpendicular to each other .* $< PRS = 30^0$

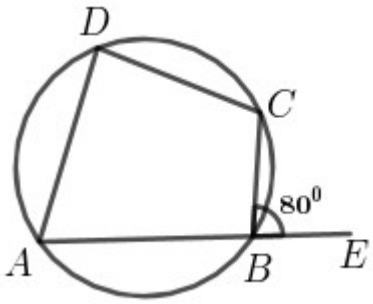



a) *What is the measure of* $< PQS$ ?

b) *What is the central angle of the arc PMS* ?

c) *What is the sum of the central angles of the arc PMS and RNQ* ?

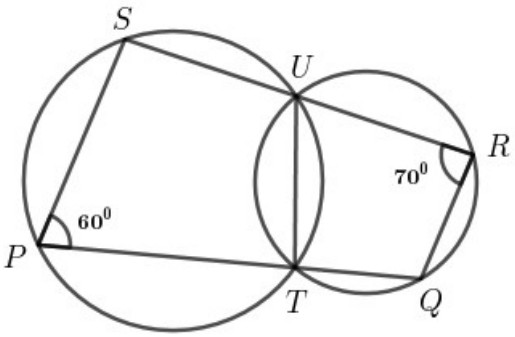
**15** *In the figure* $< CBE = 80^0$




a) *What is the measure of* $< ABC$ ?

b) *What is the measure of* $< ADC$ ?

**16** *In the figure two circles intersect at T and U .* $< P = 60^0, < R = 70^0$



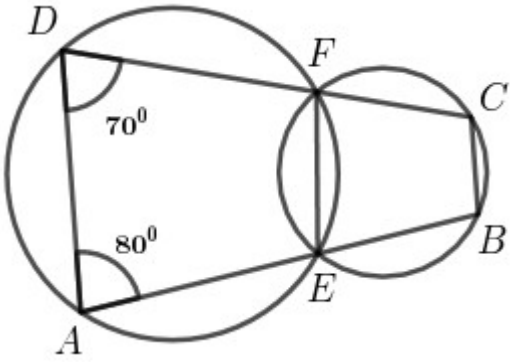

a) *What is the measure of* $< SUT$ ?

b) *What is the measure of* $< TQR$ ?

c) *What is the measure of* $< PTU$ ?

d) *What is the measure of* $< S$ ?

**17** *In the figure two circles intersect at E and F* $< A = 80^0, < D = 70^0$




a) *What is the measure of* $< DFE$ ?

b) *What is the measure of* $< CBE$ ?

c) *What is the measure of* $< BEF$ ?

d) *What is the measure of* $< C$ ?

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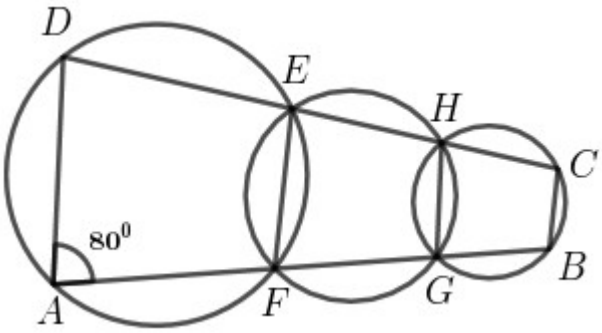
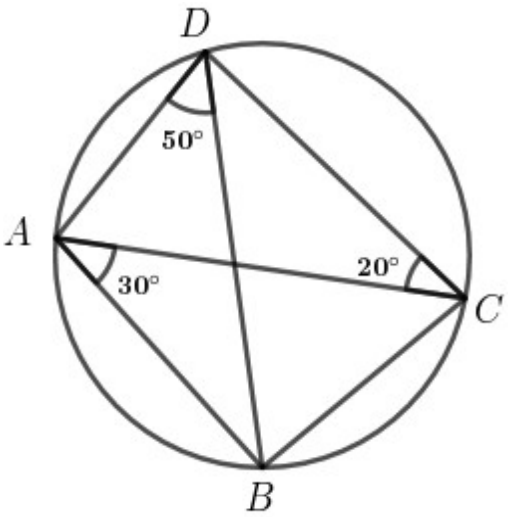
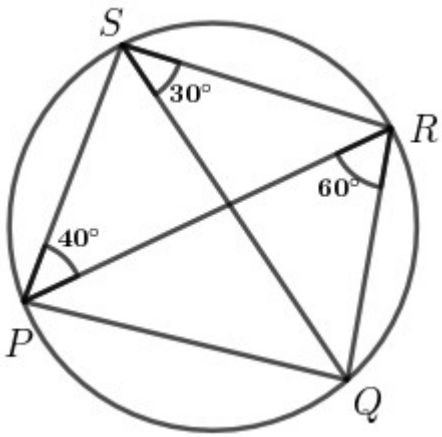
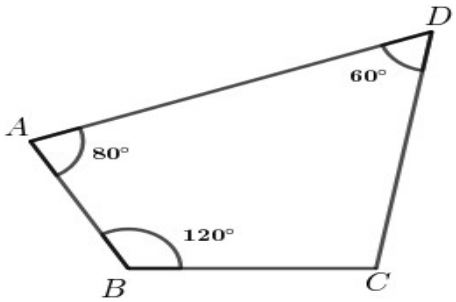
| **18** | ***In the figure*** $< A = 80^0$<br>**a)** ***What is the measure of*** $< DEF$ **?**<br>**b)** ***What is the measure of*** $< HGF$ **?**<br>**c)** ***What is the measure of*** $< C$ **?**<br>**d)** ***Give a most suitable name for the quadrilateral*** $ABCD$ **?**<br>  |
| **19** | ***In the figure*** $< BAC = 30^0$, $< ADB = 50^0$,<br>$< ACD = 20^0$ .<br>**a)** ***What is the measure of*** $< ACB$ **?**<br>**b)** ***What is the measure of*** $< BDC$ **?**<br>**c)** ***What is the measure of*** $< ABD$ **?**<br>**d)** ***What is the measure of*** $< DBC$ **?**<br>**e)** ***What is the measure of*** $< CAD$ **?**<br>  |
| **20** | ***In the figure*** $< PRQ = 60^0$, $< QSR = 30^0$,<br>$< RPS = 40^0$<br>**a)** ***What is the measure of*** $< PSQ$ **?**<br>**b)** ***What is the measure of*** $< QPR$ **?**<br>**c)** ***What is the measure of*** $< SQR$ **?**<br>**d)** ***What is the measure of*** $< PQS$ **?**<br>**e)** ***What is the measure of*** $< PRS$ **?**<br>  |
| **21** | ***In the figure*** $< A = 80^0$, $< B = 120^0$, $< D = 60^0$<br>**a)** ***What is the measure of*** $< C$ **?**<br>**b)** ***The position of the vertex*** $C$ ***if a circle is drawn through the vertices*** $A$, $B$ ***and*** $D$ ***is*** .....<br>**(** ***inside the circle , outside the circle , on the circle*** **)**<br>  |

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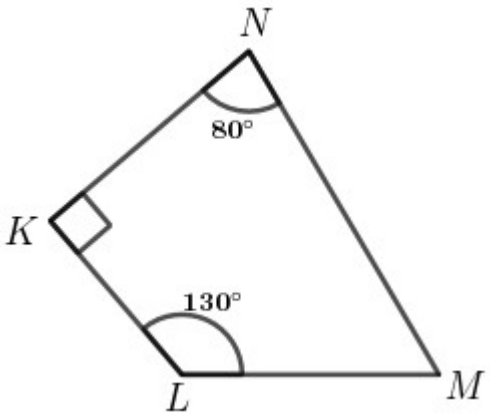
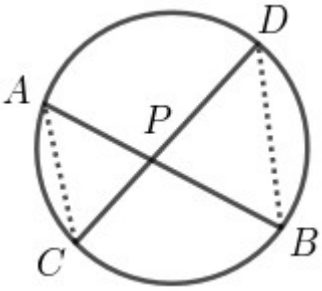
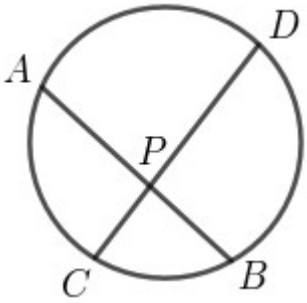
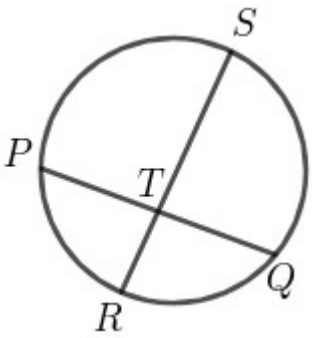
| 22 | *In the figure* $< K = 90^0$, $< L = 130^0$, $< N = 80^0$<br>**a)** *What is the measure of* $< M$ ?<br>**b)** *The position of the vertex M if a circle is drawn through the vertices K, L and N is .....*<br>( *inside the circle , outside the circle , on the circle* )<br>  <br>**c)** *The position of the vertex N if a circle is drawn through the vertices K, L and M is .....*<br>( *inside the circle , outside the circle , on the circle* ) |
| 23 | *In the figure two chords AB and CD are intersect at P .*<br>**a)** *Which other angle is equal to the measure of* $< CAB$ ?<br>**b)** *Which other angle is equal to the measure of* $< ABD$ ?<br>**c)** *Prove that* $PA \times PB = PC \times PD$ ?<br>  |
| 24 | *In the figure two chords AB and CD are intersect at P .*<br>$PA = 5\ cm$ , $AB = 9\ cm$ , $PD = 10\ cm$<br>**a)** *What is the length of BP* ?<br>**b)** $PC \times PD$ = .....<br>**c)** *What is the length of CD* ?<br>  |
| 25 | *In the figure two chords PQ and RS are intersect at T .*<br>$RS = 13\ cm$ , $TR = 4\ cm$ . *T is the midpoint of PQ.*<br>**a)** *What is the length of TS* ?<br>**b)** $TP \times TQ$ = .....<br>**c)** *What is the length of PQ* ?<br>  |

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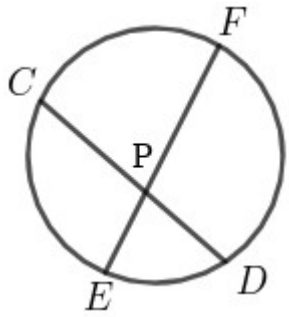
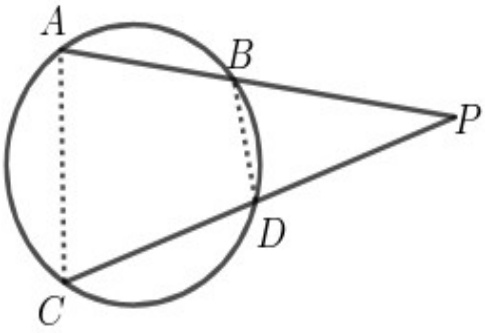
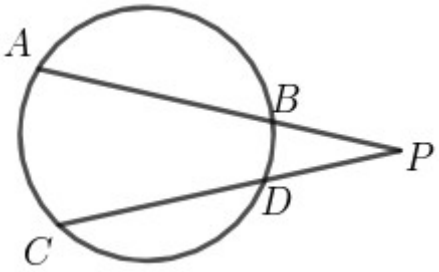
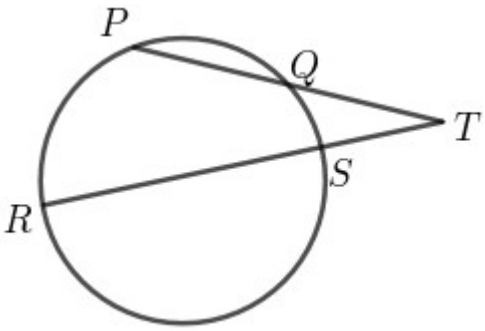
| 26 | ***In the figure two chords AB and CD are intersect at P .***<br>***EF = 11 cm , EP = 2 cm . The length of PC is double the length of PD .***<br>**a)** ***What is the length of PF ?***<br>**b)** ***PC x PD = .....***<br>**c)** ***What is the length of CD ?*** |
| 27 | ***In the figure , chords AB and CD are extended to meet at P .***<br>**a)** ***If < C = $60^0$ , what is the measure of < ABD ?***<br>**b)** ***Prove that the angles of triangles APC and BPD are same ?***<br>**c)** ***Prove that PA x PB = PC x PD ?*** |
| 28 | ***In the figure , chords AB and CD are extended to meet at P .***<br>***PA = 10 cm , AB = 6 cm , PD = 5 cm .***<br>**a)** ***What is the length of BP ?***<br>**b)** ***PC x PD = .....***<br>**c)** ***What is the length of CD ?*** |
| 29 | ***In the figure , chords PQ and RS are extended to meet at T . RT = 18 cm , RS = 14 cm .***<br>***Q is the midpoint of PT .***<br>**a)** ***What is the length of TS ?***<br>**b)** ***TP x TQ =***<br>**c)** ***What is the length of PQ ?*** |



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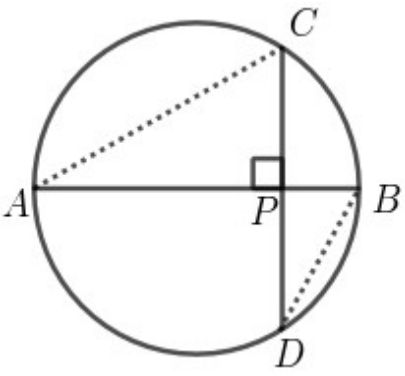
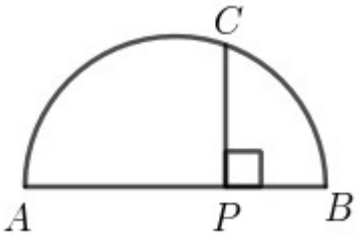
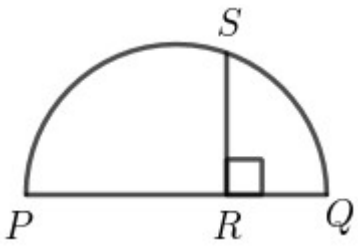
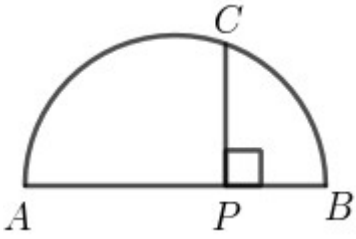
| **30** | ***In the figure AB is the diameter of the circle .***<br>***P is a point on AB . CD is a chord perpendicular to AB through P .***<br>**a)** ***Which other angle is equal to the measure of < ACD ?***<br>**b)** ***Prove that PA x PB = PC x PD ?***<br>**c)** ***Which other line is the same length as that of PC ?***<br>**d)** ***Prove that PA x PB = $PC^2$ ?***<br>  |
| **31** | ***In the figure AB is the diameter of the semicircle .***<br>***P is a point on AB . The perpendicular drawn through P to AB meets the semicircle at C . AB = 10 cm , PA = 8 cm***<br>**a)** ***What is the length of PB ?***<br>**b)** ***PA x PB = .....***<br>**c)** ***What is the length of PC ?***<br>  |
| **32** | ***In the figure PQ is the diameter of the semicircle .***<br>***R is a point on PQ . The perpendicular drawn through R to PQ meets the semicircle at S. RS = 6 cm , RQ = 4 cm***<br>**a)** ***RP x RQ = .....***<br>**b)** ***What is the length of PQ ?***<br>  |
| **33** | ***In the figure AB is the diameter of the semicircle .***<br>***P is a point on AB . The perpendicular drawn through P to AB meets the semicircle at C .***<br>**a)** ***If PA = 5 cm and PB = 3 cm ,what is the length of PC ?***<br>**b)** ***Draw a square of area 15 square centimetres ?***<br>  |

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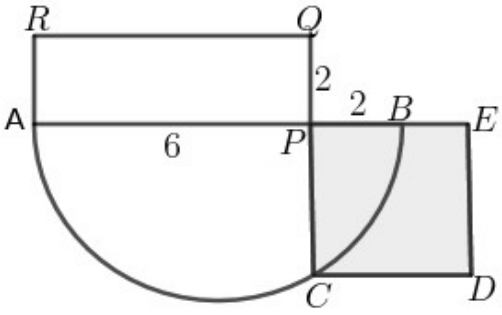
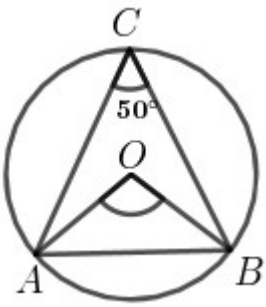
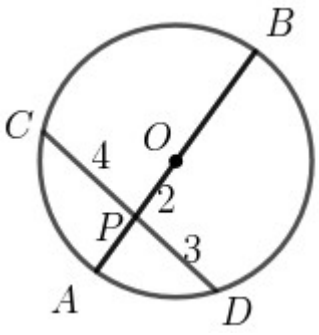
| 34 | *In the figure PA = 6 cm , PB = PQ = 2 cm*<br>**a)** *What is the area of the square PCDE ?*<br>**b)** *Draw a square of area* 12 *square centimetres ?*<br>  |
| 35 | *In the figure O is the centre of the circumcircle of triangle ABC .*<br>$< C = 50^0$<br>**a)** *What is the measure of* $< AOB$ ?<br>**b)** *Draw a triangle of circumradius* 3 *cm and two of the angles* $50^0$ *and* $60^0$ ?<br>  |
| 36 | *Draw a triangle of circumradius* 5 *cm and two of the angles* $70^0$ *and* $80^0$ . |
| 37 | *Draw a triangle of circumradius 4 cm and two of the angles* $45^0$ *and* $65^0$ . |
| 38 | *Draw a triangle of circumradius 3.5 cm and two of the angles* $55^0$ *and* $75^0$ . |
| 39 | *Draw a rectangle of width* 6 *cm and height* 4 *cm . Draw a square of the same area .* |
| 40 | *Draw a rectangle of width* 7 *cm and height* 2 *cm . Draw a square of the same area .* |
| 41 | *Draw a rectangle of width* 5 *cm and height* 4 *cm . Draw a square of the same area .* |
| 42 | *In the figure O is the centre of the circle . Chords AB and CD are intersect at P .*<br>*PC* = 4 *cm , PD* = 3 *cm , PO* = 2 *cm .*<br>**a)** *If the radius of the circle is taken as* $r$ *, what is the length of PA ?*<br>**b)** *PA x PB* = .....<br>**c)** *What is the radius of the circle ?*<br>  |

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| **43** | ***In the figure O is the centre of the circle . Chords AB and CD are intersect at P .***<br>***PA = 8 cm , PB = 5 cm , PO = 3 cm .***<br>**a)** ***If the radius of the circle is taken as $r$ , what is the length of PC ?***<br>**b)** ***PC x PD = .....***<br>**c)** ***What is the radius of the circle ?*** |