

Name: _____ () Class: _____ Date: _____

Lesson Worksheet 11.3 (II+)

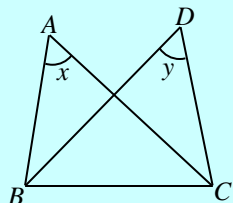
Objective: To perform tests for concyclic points / cyclic quadrilaterals.

A, B, C and D are concyclic if

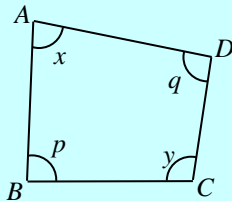
(i) $x = y$;

(ii) $x + y = 180^\circ$ or $p + q = 180^\circ$;

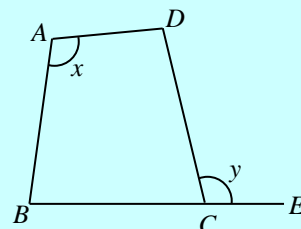
(iii) $y = x$.



[Reference: converse of \angle s in the same segment]

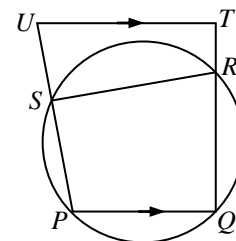


[Reference: opp. \angle s supp.]

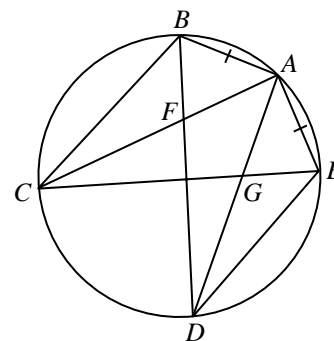


[Reference: ext. $\angle =$ int. opp. \angle]

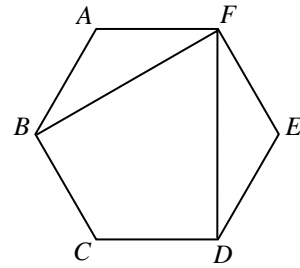
- In the figure, $PQTU$ is a trapezium with $PQ \parallel UT$. PU and QT cut the circle at S and R respectively. Prove that S, R, T and U are concyclic.



- In the figure, $AB = AE$. BD cuts AC at F and EC cuts AD at G . Prove that F, C, D and G are concyclic.

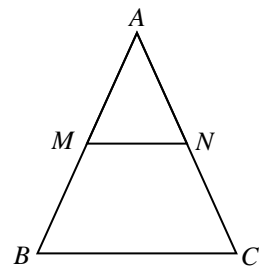


3. In the figure, $ABCDEF$ is a regular hexagon. Prove that B, C, D and F are concyclic.



→Exercise 11.3: 17

4. In the figure, $\triangle ABC$ is an isosceles triangle with $AB = AC$. M and N are the mid-points of AB and AC respectively. Prove that M, B, C and N are concyclic.



Try More

5. In the figure, $PQ = PR$ and $QSTR$ is a straight line. Let $\angle PUR = a$ and $\angle RUV = b$. Prove that S, U, V and T are concyclic.

