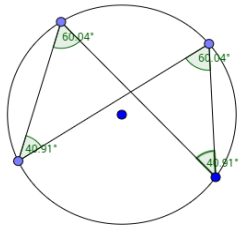


Goals



By the end of this unit, students:

- understand the concepts and techniques in combinatorics, geometry and vectors
- apply reasoning skills and solve problems in combinatorics, geometry and vectors
- communicate their arguments and strategies when solving problems
- construct proofs in a variety of contexts including algebraic and geometric
- interpret mathematical information and ascertain the reasonableness of their solutions to problems.

This week's focus:

Angle Properties in a Circle

Theoretical Components

STEP 1:

Read notes and study examples:

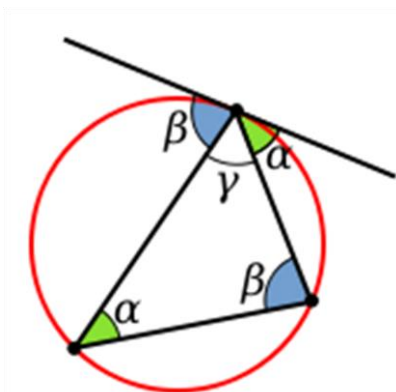
- Mathspace: <https://goo.gl/UFAlb6>
- Mathsisfun: <https://goo.gl/boLQuo>
- AMSI: <http://goo.gl/DXqhPg>

Interesting reading on Shapes in Chinese Culture:

<http://goo.gl/JlkK3R>

Review of Mathematical Induction:

- <http://goo.gl/rCTUQt>
- <http://www.themathpage.com/aprecalc/mathematical-induction.htm>



Practical Components

STEP 2:

Attempt all the questions:

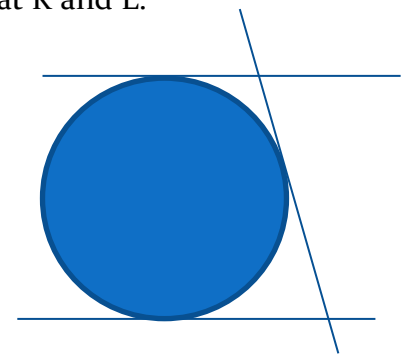
ABOUT/RESOURCES/2017 S1/ WK06/

Attempt all of the 10 questions here:

<https://goo.gl/boLQuo>

Investigation

Two parallel tangents to the circle, with centre O, meet the circle at points M and N. A third tangent to the circle, at point P, meets the other two tangents at K and L.



i) Prove that KO bisects angle MKP.

ii) Hence show that a circle with a diameter KL passes through the centre O of the original circle.

3+4=7 marks.