

Construct Triangles and Regular Polygons (from inscribed circles) – iSS8

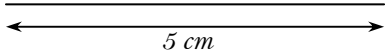
Construct a Triangle with Given Lengths

Example

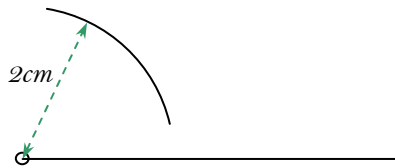
Construct a triangle with sides 2, 4 and 5cm.

Solution

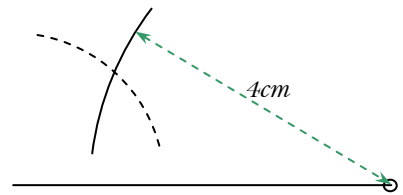
Draw the longest side as the base.



With compasses centred at one end, draw an arc with radius 2cm.



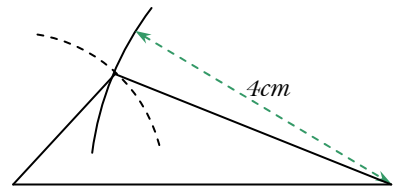
With compasses centred at the other end, draw a crossing arc with radius 4cm.



Your Turn!!

a) Construct a triangle with sides 3, 5 and 7cm.

Join the ends of the base line to the point where the arcs cross.



Regular Polygons

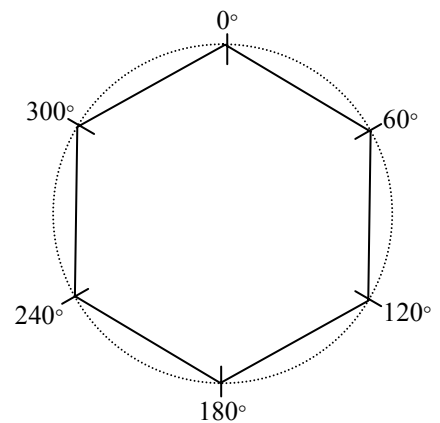
Example

Draw a regular hexagon, using a circle.

Solution

Hexagons are 6 sided. Divide a circle into 6 equal parts so that every part is $360 \div 6 = 60^\circ$. On a 360° protractor this means making marks at; 0° , 60° , 120° , 180° , 240° & 300° .

Draw a circle. Mark the points 0° , 60° , 120° , 180° , 240° & 300° . Join the points together.



Your Turn!!

b) Draw a regular pentagon, using a circle.

RAPID 'ACID' TEST – Blank out the page above before answering these!

1. Construct a triangle with sides 3, 4 and 6cm.
2. Draw a regular 10-sided polygon.