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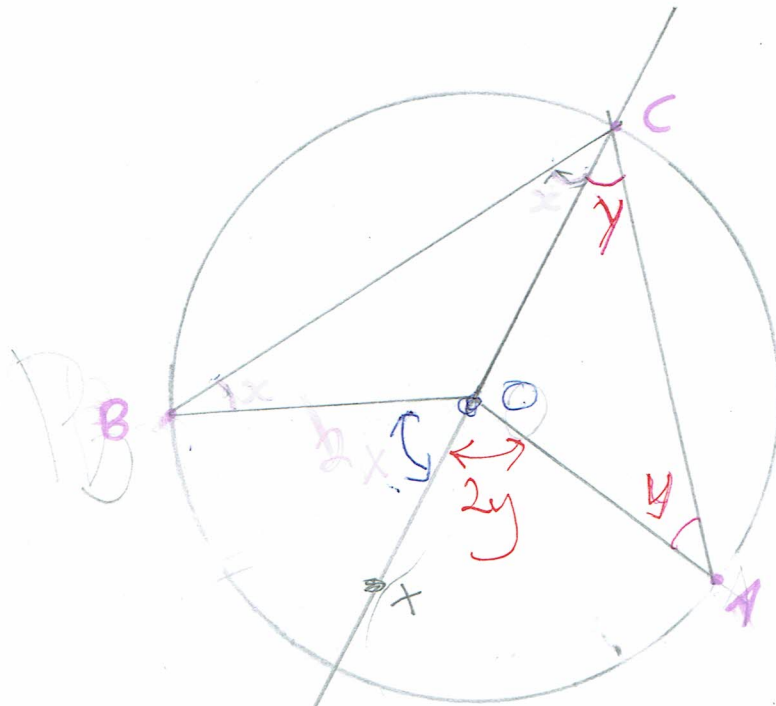
Circumference Angles

Observation

Trial	$\angle C$ (Blue)	$\angle O$ (Red)	Comments
1	60°	120°	$120^\circ = 2 \times 60^\circ$
2	50°	100°	$100^\circ = 2 \times 50^\circ$
3	48°	96°	$96^\circ = 2 \times 48^\circ$
4	65°	130°	$130^\circ = 2 \times 65^\circ$
5	80°	160°	$160^\circ = 2 \times 80^\circ$
6	90°	180°	$180^\circ = 2 \times 90^\circ$

I realised that $\angle O = 2 \times \angle C$.

my proof based on this diagram



$\overline{OB} = \overline{OC} = \overline{OA}$ (radii)

$\therefore \triangle BOA$ and $\triangle AOC$ are isosceles triangles

$$\therefore \angle OBC = \angle OCB = x$$

$$\angle DAC = \angle OCA = y$$

$$\angle BOA = x + x$$

$$\angle BOA = 2x$$

$$\angle AOC = y + y$$

$$= 2y$$

$$\angle BOA = 2x + 2y$$
$$= 2(x + y)$$

$$\angle BCA = x + y$$

$$\therefore \angle BOA = 2 \times \angle BCA$$

Proved

yes/oo
CASE
SOLVED
yes/oo