Name: _____ 5-a-day Higher Plus

**26th May**

Corbettmaths

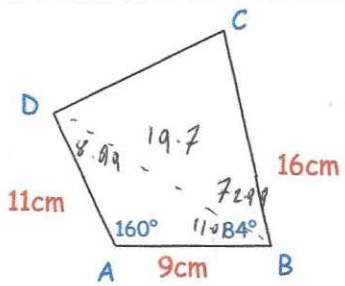
Write $x^2 + 4x + 9$ in the form $(x + a)^2 + b$

$(x+2)^2 - 4 + 9$

$(x+2)^2 + 5$

Find the coordinates of the turning point of $y = x^2 + 4x + 9$

$(-2, 5)$




$BB = 19.70$

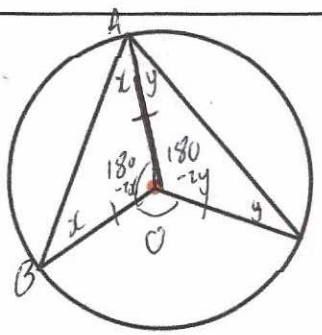
$\angle ABD = 11.01°$

$\angle ABC = 8.99°$

$\angle DBE = 72.99°$

Calculate the length CD.

21.44cm




Let $\angle ABO = x$

$\angle ABC = \angle BAO = x$ as isosceles

Let $\angle OCA = y$

$\angle OCA = \angle CAO = y$ as isosceles

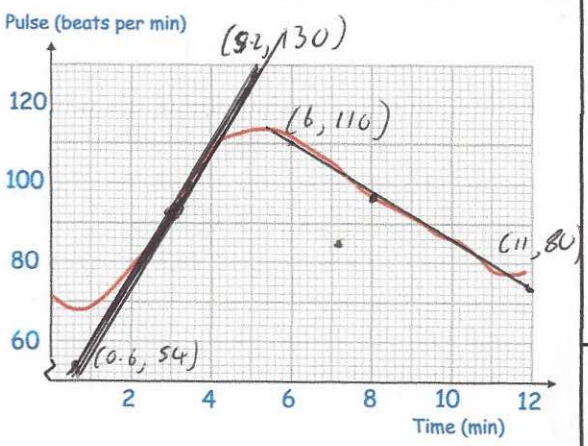
Prove that the angle at the centre is twice the angle at the circumference.

$\angle AOB = 180 - 2x$ (angles in a triangle)

$\angle AOC = 180 - 2y$ " "

$\therefore \angle BOC = 2x + 2y$ (angles at a point)

$\therefore \angle BOC = 2 \times \angle BAC$ QED




Work out the rate at which the pulse is increasing at three minutes.
Include units.

$\frac{130 - 54}{5.2 - 0.6} = 16.52$ beats per $min^2$

Work out the rate at which the pulse is decreasing at eight minutes.
Include units.

$\frac{80 - 110}{11 - 6} = -6$

Decreasing at a rate of 6 beats per $min^2$