Name: ______________ 5-a-day **Higher Plus**

5th March

Corbettmaths

A circle has the equation $x^2 + y^2 = 121$

Find the area of the circle.
Give your answer in terms of π

$r = 11$

$\pi \times 11^2$

$\pi \times 121$

121π

C is inversely proportional to the square of A. $C \propto \frac{1}{A^2}$

When A = 3, C = 10. Find the value of A when C = 5.

$C = \frac{k}{A^2}$ $\quad 10 = \frac{k}{9}$ $\quad k = 90$

$C = \frac{90}{A^2}$

$5 = \frac{90}{A^2}$

$5A^2 = 90$

$A^2 = 18$

$A = \sqrt{18}$

or $3\sqrt{2}$

Write $0.2\dot{5}\dot{3}$ as a fraction

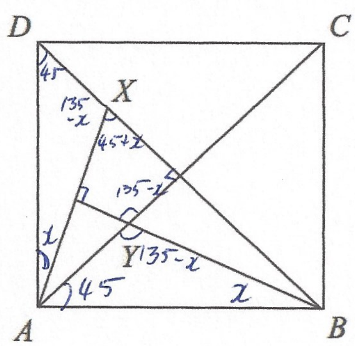
$x = 0.2535353...$

$10x = 2.535353...$

$1000x = 253.5353...$

$990x = 251$

$x = \frac{251}{990}$



ABCD is a square, X is a point in the diagonal BD and the perpendicular from B to AX meets AC in Y.
Prove that triangles AXD and AYB are congruent.

$AB = AD$ as a square

$\angle BAC = \angle ADB = 45°$

let $\angle ABY = x$

$\angle AYB = 135 - x$

$\angle EYF = \angle AYB$ vertically opposite

$\angle AEB = \angle XEB = 90°$ perpendicular

$XEYF$ is a kite

$\angle EXF = 45 + x$

$\angle DXA = 135 - x$ (straight line)

$\angle DAX = x$

$\therefore \triangle AYB$ is congruent to $\triangle AXD$

ASA