Name: _____ 5-a-day Higher Plus

7th December

Corbettmaths

Given

$$f(x) = \frac{2x+4}{3}$$

find

$f^{-1}(x)$

$y = \frac{2x+4}{3}$

$3y = 2x+4$

$3y - 4 = 2x$

$x = \frac{3y-4}{2}$

$f^{-1}(x) = \frac{3x-4}{2}$

Rebecca has 9 cards, each with a number on it.

2	2	3	4	5	6	6	7	9

She picks two cards at random, without replacement.
Rebecca multiplies the two numbers to get a score.

Calculate the probability that the score is an even number

E × O = E O × O = O

E × E = E

O × E = E

$1 - P(OO)$

$P(OO) = \frac{4}{9} \times \frac{3}{8}$

$= \frac{1}{6}$

$1 - \frac{1}{6} = \frac{5}{6}$

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

$3x^2 - 12x + 41$

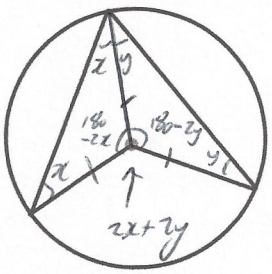
$3(x^2 - 4x) + 41$

$3[(x-2)^2 - 4] + 41$

$3[(x-2)^2 - 4] + 41$

$3(x-2)^2 - 12 + 41$

$3(x-2)^2 + 29$



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

Since the angle at the centre is $2x + 2y$ & the angle at the circumference is $x + y$, this is twice the angle centre