Name: _____ 5-a-day Higher Plus

5th January

Corbettmaths

Express $(8 + \sqrt{5})^2$ in the form $a + b\sqrt{5}$

$(8+\sqrt{5})(8+\sqrt{5})$

$64 + 8\sqrt{5} + 8\sqrt{5} + 5$

$69 + 16\sqrt{5}$

Find the minimum value of $x^2 + 6x + 20$ and the value of x for which it occurs.

$(x+3)^2 - 9 + 20$

$(x+3)^2 + 11$

Minimum value of $x^2+6x+20$ is 11.

It occurs when $x = -3$

Write the equation of a circle C, with centre O and radius 4cm.

$x^2 + y^2 = 4^2$

$x^2 + y^2 = 16$

Write $2.1\dot{6}\dot{5}$ as a mixed number. Give your answer in its simplest form.

$x = 2.165656565\ldots$

$10x = 21.656565\ldots$

$1000x = 2165.6565\ldots$

$990x = 2144$

$x = \frac{2144}{990} = \frac{1072}{495}$

or $2\frac{82}{495}$

Find the nth term of

1, 3, 7, 13, 21, ..., ...

2 4 6 8

2 2 2

$a = 1$

$3a + b = 2$

$3 + b = 2$

$b = -1$

$c = 1$

$n^2 - n + 1$