10th March

Corbettmaths

Expand and simplify

$(3x - 1)(2x + 3)(x - 7)$

$(6x^2 + 9x - 2x - 3)(x - 7)$

$(6x^2 + 7x - 3)(x - 7)$

$6x^3 - 42x^2 + 7x^2 - 49x - 3x + 21$

$6x^3 - 35x^2 - 52x + 21$

Solve $x^2 - 8x - 33 > 0$

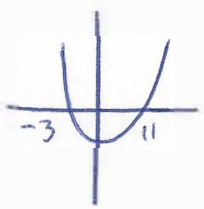
$(x - 11)(x + 3) = 0$

$x = 11$ or $x = -3$

$x > -3$ ×

$x > 11$ ✓

Can you spot any mistakes? A graph helps!



$x < -3$ or $x > 11$

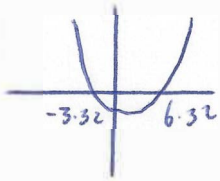
Solve $x^2 - 3x - 21 < 0$ doesn't factorise

$(x - \quad)(x \quad)$

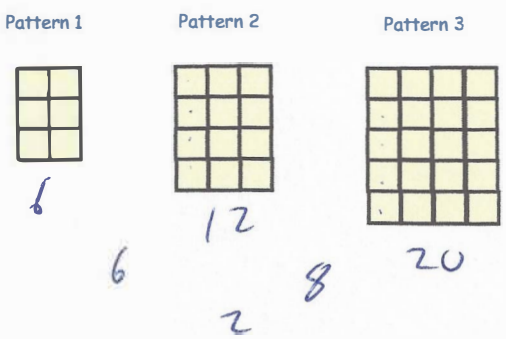
$a = 1 \quad b = -3 \quad c = -21$

$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

$x = -3.32$ or $x = 6.32$



$-3.32 < x < 6.32$



Find the number of tiles in pattern n for each.

$a = 1 \quad b = 3 \quad c = 2$

$n^2 + 3n + 2$

There are n counters in a bag.
Three counters are white and the rest are green. $n - 3$
Two counters are taken from the bag at random.

Find the probability, in terms of n, that both counters are green.

$\frac{n-3}{n} \times \frac{n-4}{n-1} = \frac{(n-3)(n-4)}{n(n-1)}$

$= \frac{n^2 - 7n + 12}{n^2 - n}$