28th January **Higher Plus 5-a-day**

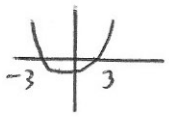
Corbettmaths

Solve the inequality

$5x^2 < 45$

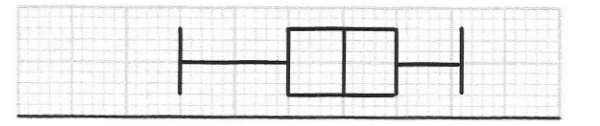
$x^2 < 9$

$x^2 - 9 < 0$



$(x+3)(x-3)$

$-3 < x < 3$



The box plot shows information about the masses of apples in a box

Jack picks three apples at random, one at a time, replacing each before picking the next.
Find the probability that he chooses two over 90g and one under 75g.

oou $\frac{1}{2} \times \frac{1}{2} \times \frac{1}{4} = \frac{1}{16}$

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$\frac{3}{16}$

The minimum point of a quadratic graph in the form $y = x^2 + ax + b$ is $(-2, -10)$.

Find a and b.

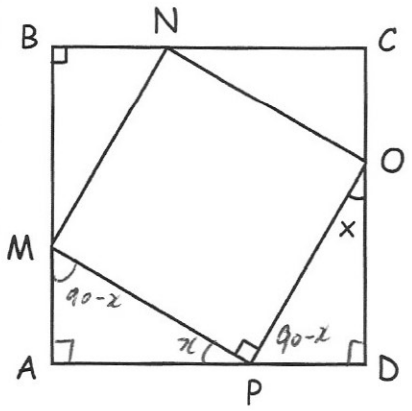
$(x+2)^2 - 10$

$x^2 + 4x + 4 - 10$

$y = x^2 + 4x - 6$

$a = 4$

$b = -6$



ABCD and MNOP are squares.

Prove triangles POD and MAP are congruent.

PM = OP (sides of a square)

∠OPD = 90 - x (angles in a triangle)

∠MPA = x (angles in a straight line)

∠PMA = 90 - x (angles in a triangle)

△POD & △MAP are congruent due to ASA