



James has solved the equation
 $x^2 + ax + b = 0$

Find a and b

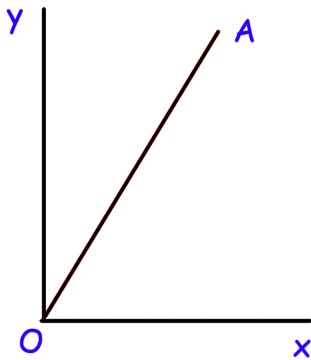
His solutions are $x = -3 + \sqrt{17}$
and $x = -3 - \sqrt{17}$

Solve

$$\frac{81^x}{9^{x+1}} = 3\sqrt{3}$$

Patrycja picks a five digit odd number.
The second digit is less than 5.
The fourth digit is a positive cube number.
The first digit is a prime number.

How many different numbers could she pick?



The line OA has a gradient of 3
The length of OA is $12\sqrt{10}$

Work out the coordinates of A