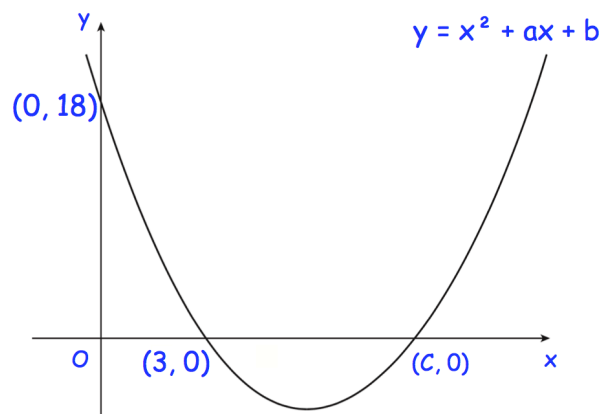




Shown is the graph of $y = x^2 + ax + b$

The graph crosses the y-axis at $(0, 18)$ and the x-axis at $(3, 0)$ and $(c, 0)$, where $c > 3$

Find the values of a and b



Given

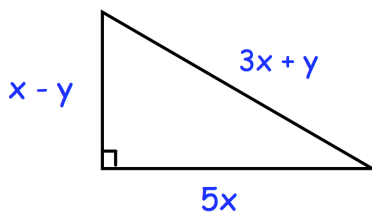
$$f(x) = \frac{2x + 1}{5}$$

find

$$f^{-1}(4)$$

An object has a mass of 420kg, correct to two significant figures.
The density of the material it is made from is 5.4g/cm^3 , correct to one decimal place.

Work out the smallest possible volume of the object.
Give your answer to three significant figures.



Prove $x : y = 8 : 17$