

20th January



Corbettmaths

Line 1 has equation $y = 5x + 2$

Write down the equation of a line parallel to Line 1.

$$y = 5x + 3$$

$$y = 5x - 10 \quad \text{etc}$$

Line 2 has equation $y = 2x - 1$

Write down the equation of a line perpendicular to Line 2.

$$y = -\frac{1}{2}x + 3$$

$$y = -\frac{1}{2}x - 4 \quad \text{etc}$$

A large bottle of cola is 18cm tall.
A small bottle is 12cm tall.

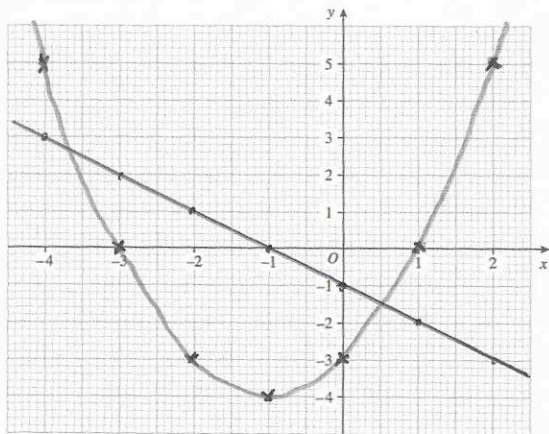
David claims the small bottle contains two-thirds the amount of cola than the large bottle.

Show he is wrong.

sides $\rightarrow x \frac{2}{3}$

volume $\rightarrow x \left(\frac{2}{3}\right)^3 = x \left(\frac{8}{27}\right)$

less than 30% of the amount.



$$y = -x - 1$$

Draw $y = x^2 + 2x - 3$

x	-4	-3	-2	-1	0	1	2
y	5	0	-3	-4	-3	0	5

Solve the simultaneous equations below graphically

$$y = x^2 + 2x - 3$$

$$x + y + 1 = 0$$

$$x = 0.5 \text{ and } y = -1.5$$

or

$$x = -3.7 \text{ and } y = 2.6$$

Solve using the quadratic formula

$$2x^2 + x - 8 = 0$$

$$a = 2$$

$$b = 1$$

$$c = -8$$

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

$$x = \frac{-1 \pm \sqrt{1 - (-64)}}{4}$$

$$x = 1.7656 \text{ or } x = -2.2656$$