

19th July

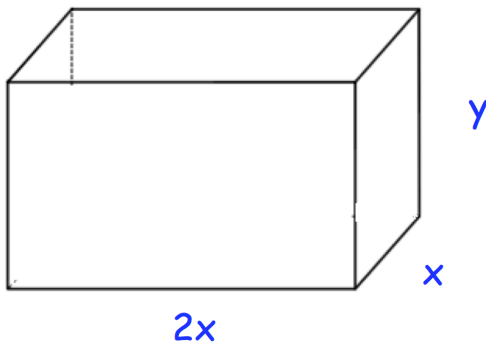
Corbettmaths

Use factor theorem to show that $(x - 1)$ is a factor of

$$x^3 - 3x^2 - 13x + 15$$

Expand and simplify $(2\sqrt{3} - 1)^3$

An open-topped tank in the shape of a cuboid is shown below.



The surface area of the cuboid is 300cm^2

The volume of the cuboid is V

Show that $y = \frac{50}{x} - \frac{x}{3}$

Show that the volume of the tank is $V = 100x - \frac{2}{3}x^3$

Use differentiation to find the value of x for which V is a maximum