



$(x + 3)(x + a)(bx - 3)$ is expanded to give

$$2x^3 - x^2 - 15x + 18$$

Find a and b.

w is proportional to \sqrt{x}

x is decreased by 9.75%

Work out the percentage decrease in w.

Liquid A has a density of 0.7g/cm^3
 Liquid B has a density of 1.5g/cm^3
 Liquid C has a density of 1.25g/cm^3

200g of liquid A, 1kg of liquid B and 500g of liquid C are mixed to make liquid D.

Work out the density of liquid D

One solution of a quadratic equation in the form

$$y = ax^2 + bx + c$$

is

$$x = \frac{3 + \sqrt{65}}{4}$$

Find possible values of a, b and c.

$$f(x) = 10 - 5x \quad g(x) = \frac{1}{3}x - 1$$

Solve $f^{-1}(x) = g^{-1}(x)$