

**2nd July**

Corbettmaths

$$(x + a)^2(x - 2) \equiv x^3 + bx^2 + 12x - 72$$

Find the values of a and b

$$f(x) = x^2 + 2x + 1$$

Show that  $f(x + 2) - f(x) = 4x + 8$

Liquid A has a density of  $0.7\text{g/cm}^3$   
Liquid B has a density of  $1.5\text{g/cm}^3$   
Liquid C has a density of  $1.25\text{g/cm}^3$

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.

Prove the angles in a triangle add  
up to  $180^\circ$ .