

**24th January**

Corbettmaths

How many points of intersection does the circle  $x^2 + y^2 = 8$  have with the line  $x + y = 4$  ?

Work out the rate of change of  $y$  with respect to  $x$  at the point on the curve

$$y = x^2(x - 4) \text{ where } x = 3$$

Solve the simultaneous equations

$$10x + 60y + 10z = 25$$

$$5x + 40y + 20z = 40$$

$$20x + 20y + 40z = 30$$

How many solutions of  $\tan x = k$ , where  $k < 0$ , are between  $90^\circ$  and  $360^\circ$ ?