

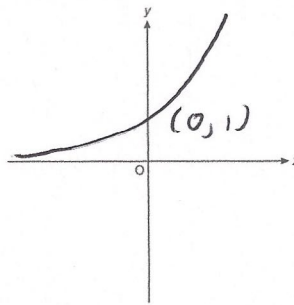
17th May



Corbettmaths

Sketch

$$y = 2^x$$



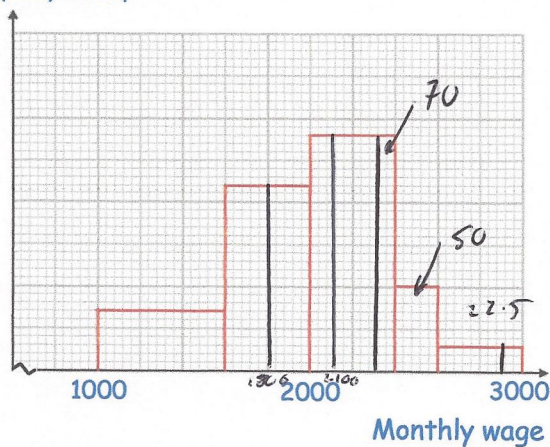
How many points of intersection does the curve $y = (x - 3)(x + 4)$ have with the line $y = x - 8$?

$$\begin{aligned} (x-3)(x+4) &= x-8 \\ x^2 + x - 12 &= x - 8 \\ x^2 - 4 &= 0 \end{aligned}$$

$$\begin{aligned} (x-2)(x+2) &= 0 \\ x=2 \quad \text{or} \quad x &= -2 \end{aligned}$$

\therefore there are two points of intersection.

Frequency Density



Work out an estimate of how many employees have a salary of between £2300 and £2900

$$\begin{aligned} 22 \times 5 &= 110 \\ 28 \times 2.5 &= 70 \\ \hline &180 \text{ squares} \\ 216 \text{ people} &= 180 \text{ squares} \\ 1 \text{ person} &= \frac{3}{6} \text{ square} \end{aligned}$$

$$70 + 50 + 22.5 = 142.5$$

$$142.5 \div \frac{3}{6} = 171$$

The histogram below shows the monthly salaries of employees. There are 216 people who have a monthly salary of between £1800 and £2100.

Jim picks a five digit even number.
The second digit is less than 4. 0 1 2 3
The fourth digit is a square number 1 4 9
The first digit is a prime number. 2 3 5 7

$$\begin{matrix} 1^{\text{st}} & 2^{\text{nd}} & 3^{\text{rd}} & 4^{\text{th}} & 5^{\text{th}} \\ 4 & \times & 4 & \times & 10 & \times & 3 & \times & 5 \end{matrix}$$

$$2400$$

How many different numbers could he pick?