

May 28th

Mary invested some money at 8% interest per annum for 20 years. After 20 years, she had £19576.02

David invested the same amount of money as Mary into a bank account that paid 10% interest per annum.

After how many years did David's invest exceed £20000?



Mary invested £p

$$p \times 1.08^{20} = 19576.02$$

Hence

$$p = £4200$$

David invested for n years

$$4200 \times 1.1^n = 20000$$

$$1.1^n = \frac{100}{21}$$

$$n = \log_{1.1} \frac{100}{21} = 16.37..$$

So it will take **17 years**