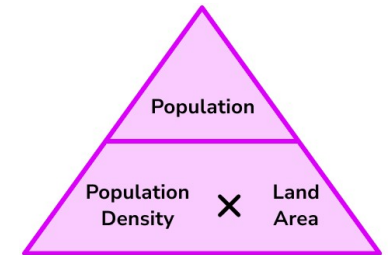


# Question of the day

Day 6

A village has a population of 4200 and a population density of 700 people per km<sup>2</sup>.  
An estate is built next to the village.

The estate has an area of 2 km<sup>2</sup> and a population density of 800 people per km<sup>2</sup>.



Work out the population density for the village and the estate together.

Village

$$\text{Population} = 4200$$

$$\text{P density} = 700$$

$$\text{Area} = ?$$

$$\text{Area} = \frac{\text{Population}}{\text{P density}}$$

$$= \frac{4200}{700}$$

$$= 6 \text{ km}^2$$

Estate

$$\text{Population} = ?$$

$$\text{P density} = 800$$

$$\text{Area} = 2 \text{ km}^2$$

$$\begin{aligned} \text{Population} &= \text{P density} \times \text{area} \\ &= 800 \times 2 \\ &= 1600 \text{ people} \end{aligned}$$

Total

$$\text{Population} = 4200 + 1600 =$$

$$\text{Area} = 6 \text{ km}^2 + 2 \text{ km}^2 = 8 \text{ km}^2$$

$$\text{Population density} = \frac{\text{Population}}{\text{area}}$$

$$= \frac{5800}{8}$$

$$8$$

$$= 725 \text{ people per km}^2$$

.....725..... people per km<sup>2</sup> [4]

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