



USING PROBABILITY PREDICTIONS

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REMINDER OF PROBABILITY

- Probabilities can be described in words
- Use of a scale between 1 certain and zero impossible
- Probabilities can be calculated to:
 - **Fractions**
 - **Decimal**
 - **Percentage**
- Sum of possibilities calculation
- Combined events using a table for calculating fraction



PROBABILITY CALCULATION

- If the probability is a chance of 4 in 7, we know we can write this as $\frac{4}{7}$ and can convert this to decimal by dividing the 4 by 7
- Therefore, a chance of $\frac{4}{7}$ could be written as the decimal 0.5714
- So, if we have a chance of 0.5714 of something happening, such as the probability of a production line having faulty hi-fi units, we can use this value to predict the outcome of multiple values.
- For example:
 - If the production line made 500 hi-fi units, there is a probability that 285.7 units will be faulty. We multiply the value by the probability of 0.5714
 - If the production line made 800 hi-fi units, the probability is 457 units (rounded off from 457.12) will be faulty.
 - It is a chance of 4 in every 7 units.

TRY THIS ...



- If there is a probability of every second person out of each 7 customers entering a museum as being senior citizens
- If 1430 people visited the museum in a week, how many are likely to be a senior citizen?
- If 2950 people visited the museum the following week, how many would likely NOT to be a senior citizen?

THE ANSWERS ...

- If there is a probability of every second person out of each 7 customers entering a museum as being senior citizens
- NOTE for answers: $2/7$ is 0.2857
- If 1430 people visited the museum in a week, how many are likely to be a senior citizen?
- $1430 \times 0.2857 = 409$ senior citizens (rounded off)
- If 2950 people visited the museum the following week, how many would likely NOT to be a senior citizen?
- 843 senior citizens, so: $2950 - 843 = 2,107$

