Statistics and probability

International Baccalaureate · IB Diploma · Mathematics: Analysis and Approaches · SL · Vocabulary in context

Word	Example
population /ˌpɒpjʊˈleɪʃn/	Define the **population** before deciding whom to include.
sample /ˈsæmpl/	The **sample** contains the people selected for this study.
discrete data	**Discrete data** can take only certain values, such as the number of children in a family.
continuous data	**Continuous data** can take any value in a range, such as height or time.
outlier /ˈaʊtlaɪə/	Leave out the **outlier** when you draw the line.
mean /miːn/	The **mean** is the total divided by the number of values.
median /ˈmiːdiːən/	Put the values in order before you find the **median**.
mode /məʊd/	The **mode** is the most common value.
quartile /ˈkwɔːtaɪl/	The lower **quartile** is a quarter of the way through the data.
interquartile range /ˌɪntəˈkwɔːtaɪl reɪndʒ/	Subtract the lower quartile from the upper for the **interquartile range**.
standard deviation /ˈstændəd ˌdiːvɪˈeɪʃn/	A larger **standard deviation** means the values are more spread out.

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variance /'veərɪəns/	The **variance** is the square of the standard deviation.
cumulative frequency /'kju:mjʊlətɪv 'fri:kwənsi/	**Cumulative frequency** adds each count to all earlier counts.
box plot /bɒks plɒt/	A **box plot** displays the median and quartiles.
scatter diagram /'skætə 'daɪəgræm/	A **scatter diagram** shows two variables as points.
correlation coefficient /ˌkɒrɪ'leɪʃn ˌkəʊɪ'fɪʃənt/	The **correlation coefficient** r of a sample estimates the population value ρ. r ρ
regression line /rɪ'greʃn laɪn/	A **regression line** $y = a + bx$ is the line of best fit for predicting y from x. $y = a + bx$ x y
interpolation /ɪnˌtɜ:pə'leɪʃn/	**Interpolation** estimates a value inside the range of the data.
extrapolation /ek'stræpəleɪʃn/	Predicting beyond the data is **extrapolation**.
probability /ˌprɒbə'bɪlɪti/	A fair coin gives **probability** one half for heads.
sample space /'sæmpl speɪs/	The **sample space** is the list of all possible outcomes.
mutually exclusive /'mju:tʃu:əli eks'klu:sɪv/	**Mutually exclusive** outcomes cannot occur together.
conditional probability /kən'dɪʃənl ˌprɒbə'bɪlɪti/	Find the **conditional probability** using only the chosen group.
independent /ˌɪndɪ'pendənt/	**Independent** events do not change each other's probabilities.

Word	Example
tree diagram /tri: ˈdaɪəgræm/	A **tree diagram** shows each stage of a probability problem.
discrete random variable /dɪˈskri:t ˈrændəm ˈveərɪəbl/	A **discrete random variable** X takes separate values, each with a probability. X
expected value /ekˈspektɪd ˈvælju:/	The **expected value** of one dice roll is 3.5. 3.5
normal distribution /ˈnɔ:ml ˌdɪstrɪˈbju:ʃn/	A **normal distribution** has a symmetric bell-shaped density curve.
standardised value	A **standardised value** of $z = 2$ is two standard deviations above the mean. $z = 2$

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