GAC010 Mathematics II: Probability, Statistics and Finance

GAC Mathematics · Vocabulary in context

Word	Example
test /test/	The **test** covers Chapters 1 to 3. 1 3
projects /'prɒdʒekts/	The course has two **projects** and one exam.
examination /eg,zæmɪ'neɪʃn/	The final **examination** lasts two hours.
coursework /'kɔ:sju:ɜ:k/	The **coursework** counts towards your final grade.
sequence /'si:kwəns/	A **sequence** places its terms in a particular order.
series /'sɪəri:z/	A **series** is the sum of its terms.
arithmetic sequence /ə'rɪθmətɪk 'si:kwəns/	2, 7, 12, 17 is an **arithmetic sequence**. 2, 7, 12, 17
common difference /'kɒmən 'dɪfrəns/	In the sequence 3, 7, 11, 15, the **common difference** is 4. 3, 7, 11, 15 4
geometric sequence /ˌdʒi:ə'metrɪk 'si:kwəns/	2, 6, 18, 54 is a **geometric sequence**. 2, 6, 18, 54
common ratio /'kɒmən 'reɪʃɪəʊ/	In the sequence 2, 6, 18, 54, the **common ratio** is 3. 2, 6, 18, 54 3
sum to infinity /sʌm tʊ ɪn'fɪnɪti/	The **sum to infinity** of 1 + ½ + ¼ + … is 2. 1 + ½ + ¼ + … 2
gross pay /grəʊs peɪ/	**Gross pay** is your pay before tax is taken off.
net pay /net peɪ/	**Net pay** is your pay after tax.

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deductions /dɪ'dʌkʃnz/	Tax and pension are **deductions** from your pay.
simple interest /'sɪmpl 'ɪntrest/	**Simple interest** is paid only on the original amount.
depreciation /dɪˌpri:ʃɪ'eɪʃn/	**Depreciation** spreads the cost of a machine over the years it is used.
discount /'dɪskaʊnt/	The shop gives a 20% **discount**. 20%
present value /'prezənt 'vælju:/	The **present value** of $110 next year is about $100 today. $110 $100
annuity /ə'nju:ɪti/	An **annuity** pays the same amount every year for a set time.
loan repayment /ləʊn rɪ'peɪmənt/	Each **loan repayment** pays some interest and some of the loan.
APR /ˌeɪ pi: 'ɑ:/	Compare the **APR** of two loans. APR
probability /ˌprɒbə'bɪlɪti/	A fair coin gives **probability** one half for heads.
mutually exclusive /'mju:tʃu:əli eks'klu:sɪv/	**Mutually exclusive** outcomes cannot occur together.
independent /ˌɪndɪ'pendənt/	**Independent** events do not change each other's probabilities.
complement /'kɒmplɪmənt/	The **complement** of an event occurs when that event does not.
counting techniques /'kaʊntɪŋ tek'ni:ks/	**Counting techniques** help us find how many ways something can happen.

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permutation /ˌpɜːmjuːˈteɪʃn/	In a **permutation**, changing the order changes the arrangement.
combination /ˌkɒmbɪˈneɪʃn/	In a **combination**, the order of chosen items does not matter.
population /ˌpɒpjʊˈleɪʃn/	Define the **population** before deciding whom to include.
sample /ˈsæmpl/	The **sample** contains the people selected for this study.
representative /ˌreprɪˈzentətɪv/	A **representative** sample is like the whole population in small.
qualitative data /ˈkwɒlɪteɪtɪv ˈdeɪtə/	Customers' written opinions are **qualitative data**.
quantitative data /ˈkwɒntɪteɪtɪv ˈdeɪtə/	Sales numbers are **quantitative data**.
discrete /dɪˈskriːt/	The number of children is **discrete**: you can count it.
continuous /kənˈtɪnjuːəs/	The beta particles have a **continuous** range of energies. β
bias /ˈbaɪəs/	**Bias** comes from a bad design; a bigger sample cannot fix it.
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.

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Word	Example
range /reɪndʒ/	The **range** of 3, 7 and 10 is 7. 3、7 10 7
interquartile range (IQR) /ˌɪntəˈkwɔːtaɪl reɪndʒ/	The **interquartile range (IQR)** is Q_3 minus Q_1. Q_3 Q_1
box plot /bɒks plɒt/	A **box plot** displays the median and quartiles.
standard deviation /ˈstændəd ˌdiːvɪˈeɪʃn/	A larger **standard deviation** means the values are more spread out.
normal distribution /ˈnɔːml ˌdɪstrɪˈbjuːʃn/	A **normal distribution** has a symmetric bell-shaped density curve.
z-score /zed skɔː/	A **z-score** of 2 is two standard deviations above the mean. 2