Inference for Categorical Data: Proportions

AP Statistics · Vocabulary in context

Word	Example
sample proportion /ˈsæmpl prəˈpoːʃn/	The **sample proportion** is the fraction of the sample with the trait.
normally distributed	Heights are roughly **normally distributed**.
conditions /kənˈdɪʃnz/	Check the **conditions** before you use the test.
standard errors	**Standard errors** estimate how much a statistic varies.
inference /ˈɪnfərəns/	Her wet coat supports the **inference** that she walked through rain.
population /ˌpɒpjʊˈleɪʃn/	Define the **population** before deciding whom to include.
confidence interval /ˈkɒnfɪdəns ˈɪntəvl/	A narrow **confidence interval** means the estimate is precise.
parameter /pəˈræmɪtə/	In $x = 2t$ and $y = t^2$, t is the **parameter**. $x = 2t$ $y = t^2$ t
margin of error /ˈmɑːdʒɪn ɒv ˈerə/	The **margin of error** shows how far the estimate might be off.
critical value /ˈkrɪtɪkl ˈvæljuː/	The **critical value** is the edge of the critical region.
confidence level /ˈkɒnfɪdəns ˈlevl/	A 95% **confidence level** means the method works 95% of the time. 95% 95%
random sample /ˈrændəm ˈsæmpl/	Pick a **random sample** from the whole class list.

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Large Counts condition /lɑːdʒ kaʊnts kənˈdɪʃn/	The **Large Counts condition** needs at least 10 successes and 10 failures. 10 10
plausible /ˈplɔːzɪbl/	A value inside the interval is **plausible**.
in context	Always state your conclusion **in context**.
significance test /sɪgˈnɪfɪkəns test/	A **significance test** checks evidence against a claim.
null hypothesis /nʌl haɪˈpɒθəsɪs/	The **null hypothesis** specifies the parameter value being tested.
alternative hypothesis /ɔːlˈtɜːnətɪv haɪˈpɒθəsɪs/	The **alternative hypothesis** says the coin favours heads.
test statistic /test stəˈtɪstɪk/	The **test statistic** is the value calculated from the sample and compared with the critical region.
two-tailed /tuː teɪld/	A **two-tailed** test looks for a difference in either direction.
reject /rɪˈdʒekt/	If the p-value is small, **reject** the null hypothesis. p-value
observed /ɒbˈzɜːvd/	The **observed** result is what we actually got.
significance level /sɪgˈnɪfɪkəns ˈlevl/	Set the **significance level** before looking at the observed result.
convincing evidence	A small p-value gives **convincing evidence** against the null hypothesis. p-value
fail to reject /feɪl tə rɪˈdʒekt/	If the p-value is large, **fail to reject** the null hypothesis. p-value
Type I error /taɪp aɪ ˈerə/	A **Type I error** rejects a true null hypothesis.

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Word	Example
false alarm	A Type I error is a **false alarm**.
Type II error /taɪp 'tuː 'erə/	A **Type II error** fails to reject a false null hypothesis.
missed detection	A Type II error is a **missed detection**.
power /'paʊə/	The **power** of a test is its chance of finding a real effect.
effect	A larger **effect** is easier to detect.
consequence /'kɒnsɪkwəns/	One **consequence** of the law was higher prices.
percentage points /pə'sentɪdʒ pɔɪnts/	A rise from 30% to 35% is five **percentage points**. 30% 35%
combined (pooled) /kəm'baɪnd/	Use a **combined (pooled)** proportion when testing for no difference.
p-value /piː 'væljuː/	A small **p-value** means the result would be surprising if there were no real effect.

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