

SAMPLE PAPER 2: PAPER 2

QUESTION 8 (30 MARKS)

Question 8 (a)

A simple random sample is one where every member of the population has an equal chance of being included in the sample.

Question 8 (b)

This would not give you a simple random sample because people without a telephone or who are ex-directory have no chance of being included in the sample.

Question 8 (c)

The null hypothesis H_0 states that the Government does not call an election. $P \leq 50\%$

Question 8 (d)

$$n = 100$$

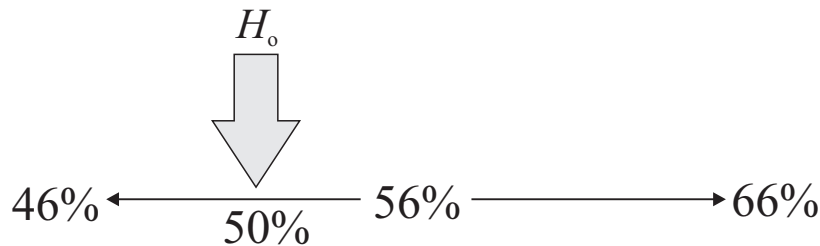
$$\text{Margin of error} = \pm \frac{1}{\sqrt{n}} = \pm \frac{1}{\sqrt{100}} = \pm 0.1 = \pm 10\%$$

Question 8 (e)

Proportion of those in the sample in favour of the Government = 56%

Test (using the sample proportion): 46% ← 56% → 66%

Since 50% is inside this interval, accept the null hypothesis which means the Government should not call an election.



Question 8 (f)

$$n = ?$$

$$\text{Margin of error} = \pm \frac{1}{\sqrt{n}} = \pm 5\% = \pm 0.05$$

$$\frac{1}{n} = (\pm 0.05)^2 = 0.0025$$

$$\therefore n = \frac{1}{0.0025} = 400$$
