AQA – Statistical hypothesis testing – AS Mathematics P2

1. June/2020/Paper_2/No.19

   It is known from historical data that 15% of the residents of a town buy the local weekly newspaper, 'Local News'.

   A new free weekly paper is introduced into the town.

   The owners of 'Local News' are interested to know whether the introduction of the free newspaper has changed the proportion of residents who buy their paper.

   In a random sample of 50 residents of the town taken after the free newspaper was introduced, it was found that 3 of them purchased 'Local News' regularly.

   Investigate, at the 5% significance level, whether this sample provides evidence that the proportion of local residents who buy 'Local News' has changed.

   [6 marks]

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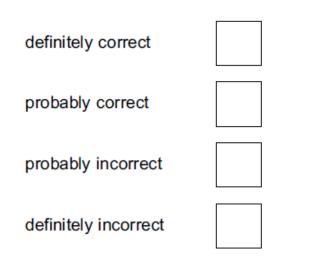**AQA – Statistical hypothesis testing – AS Mathematics P2**

2. June/2019/Paper_2/No.12

Manny is studying the price and number of pages of a random sample of books.

He calculates the value of the product moment correlation coefficient between the price and number of pages in each book as 1.05

Which of the following best describes the value 1.05?

Tick (✓) **one** box.

[1 mark]

definitely correct ☐

probably correct ☐

probably incorrect ☐

definitely incorrect ☐

2. June/2019/Paper_2/No.12

3. June/2019/Paper_2/No.16

Andrea is the manager of a company which makes mobile phone chargers.

In the past, she had found that 12% of all chargers are faulty.

(a) Andrea decides to move the manufacture of chargers to a different factory.

Andrea tests 60 of the new chargers and finds that 4 chargers are faulty.

Investigate, at the 10% level of significance, whether the proportion of faulty chargers has reduced.

[7 marks]

(b)   State, **in context**, two assumptions that are necessary for the distribution that you have used in part **(a)** to be valid.

[2 marks]

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