

**ADVANCED SUBSIDIARY GCE**  
**GENERAL STUDIES**  
The Scientific Domain

**F732**

Candidates answer on the answer booklet.

**OCR supplied materials:**

- 8 page answer booklet  
(sent with general stationery)

**Other materials required:**

- An electronic calculator

**Wednesday 25 May 2011**  
**Afternoon**

**Duration: 1 hour**



**INSTRUCTIONS TO CANDIDATES**

- Write your name, centre number and candidate number in the spaces provided on the answer booklet. Please write clearly and in capital letters.
- Use black ink. Pencil may be used for graphs and diagrams only.
- Read each question carefully. Make sure you know what you have to do before starting your answer.
- If you use additional sheets of paper, fasten the sheets to the answer booklet.
- Answer **all** the questions in Section A and **one** question in Section B.
- Do **not** write in the bar codes.

**INFORMATION FOR CANDIDATES**

- The number of marks is given in brackets [ ] at the end of each question or part question.
- The total number of marks for this paper is **60**.
- You are advised to divide your time equally between Sections A and B.
- **The quality of your written communication will be assessed, including clarity of expression, structure of arguments, presentation of ideas, grammar, punctuation and spelling.**
- This document consists of **4** pages. Any blank pages are indicated.



**A calculator may  
be used for this  
paper**

**Section A**

Answer **all** the questions in this section.

- 1 A student was asked to submit a first draft for an investigation into the attitudes of people in the UK to further expenditure on space exploration.

**First draft (submitted by the student)**

**Title:** An investigation into the attitudes of people in the UK to further expenditure on space exploration.

**Outline:** I intend to use a questionnaire and ask people about their attitudes to further space exploration. I will collect data and draw conclusions based upon the replies I receive.

**The tutor wrote the following comments on this first draft:**

- this is a promising start with potential
- you will need a representative sample for your questionnaire
- at the moment the term 'attitudes of people' is rather broad
- do you intend to use open or closed questions in the questionnaire?
- once your data is collected how will you analyse it in order to reach conclusions?
- the issue of expenditure appears to have been lost in your first outline.

- (a) Why does the tutor suggest that the student should use a 'representative sample'? [3]
- (b) How could the student refine the term 'attitudes of people'? [3]
- (c) Explain the difference between 'open' and 'closed' questions. [3]
- (d) Why does the tutor comment about the issue of expenditure? [3]
- (e) Write a revised draft of this proposal [use about 100 words]. [6]

- 2 (a) Calculate the value of **each** of the following.  
What do you notice about **each** total calculated?

(i)  $12^2 + 33^2$  [2]

(ii)  $8^2 - 4^2$  [2]

- (b) In the three equations shown in Fig. 1 each shape represents a number between 5 and 10.

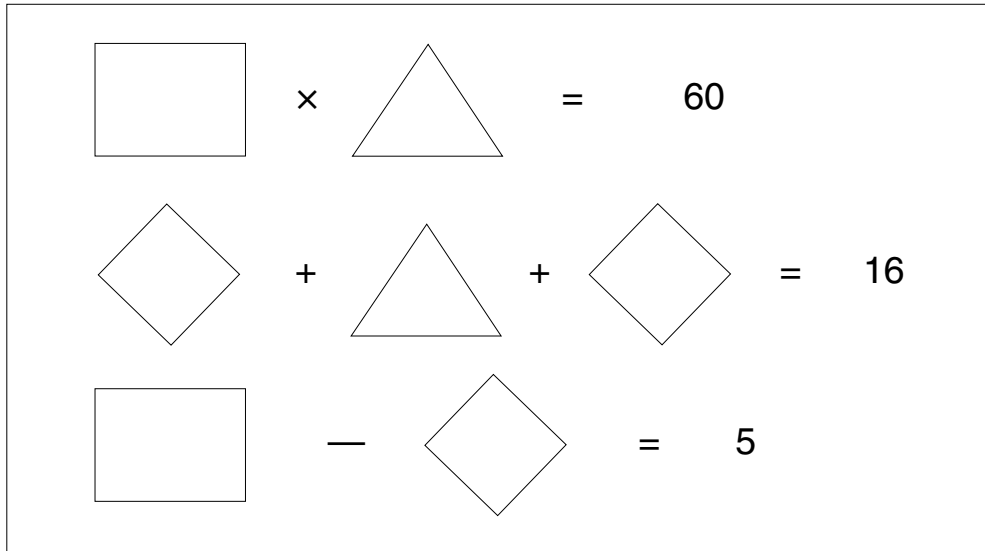


Fig. 1

Find the three numbers, between 5 and 10, that are represented by the shapes in the three equations shown. Show clearly how you came to your answer. [5]

- (c) Advertisements and retail stores often promote the offer 'Buy one get one free'. Outline **two** ways in which customers should be suspicious of this offer. [3]

**Section A Total [30]**

**Section B**

Answer **one** question from this section. Answers should be in continuous prose.

- 3 Explain how, by considering different time scales (e.g. short term, medium term and long term), different solutions might be proposed to the same scientific problem. **[30]**
- 4 What is meant by the term 'genetic engineering'?  
Describe **two** successful outcomes of genetic engineering. Explain **one** concern that people have about genetic engineering. **[30]**
- 5 Scientists have contributed to developments related to birth rates. Describe **two** advantages and **two** disadvantages of these developments. **[30]**

**Section B Total [30]**

**Copyright Information**

OCR is committed to seeking permission to reproduce all third-party content that it uses in its assessment materials. OCR has attempted to identify and contact all copyright holders whose work is used in this paper. To avoid the issue of disclosure of answer-related information to candidates, all copyright acknowledgements are reproduced in the OCR Copyright Acknowledgements Booklet. This is produced for each series of examinations and is freely available to download from our public website ([www.ocr.org.uk](http://www.ocr.org.uk)) after the live examination series.

If OCR has unwittingly failed to correctly acknowledge or clear any third-party content in this assessment material, OCR will be happy to correct its mistake at the earliest possible opportunity.

For queries or further information please contact the Copyright Team, First Floor, 9 Hills Road, Cambridge CB2 1GE.

OCR is part of the Cambridge Assessment Group; Cambridge Assessment is the brand name of University of Cambridge Local Examinations Syndicate (UCLES), which is itself a department of the University of Cambridge.