

Friday 22 May 2015 – Afternoon

AS GCE GENERAL STUDIES

F732/01 The Scientific Domain

Candidates answer on the Question Paper.

OCR supplied materials:
None

Other materials required:

- Scientific calculator

Duration: 1 hour



Candidate forename		Candidate surname	
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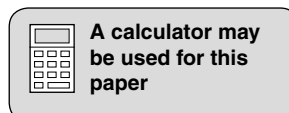
Centre number						Candidate number				
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INSTRUCTIONS TO CANDIDATES

- Write your name, centre number and candidate number in the boxes above. Please write clearly and in capital letters.
- Use black ink. HB pencil may be used for graphs and diagrams only.
- Answer **all** the questions in Section A and **one** question in Section B.
- Read each question carefully. Make sure you know what you have to do before starting your answer.
- Write your answer to each question in the space provided. If additional space is required, you should use the lined pages on pages 14–15 of this booklet. The question number(s) must be clearly shown.
- 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 **16** pages. Any blank pages are indicated.



SECTION A

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

- 1 **Table 1** below shows the net number of people migrating into and out of regions in England and Wales (June 2011).

Table 1

Region	Number of people migrating	
	out of the region	into the region
North East	2724	
North West	7071	
Yorkshire and Humberside	5676	
East Midlands		3889
West Midlands	7182	
East of England		14 620
London	40 351	
South East		20 684
South West		19 216
Wales		2 532
TOTALS	63 004	60 941

- (a) (i) Identify **two** trends shown in **Table 1**.

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[2]

Fig. 1 shows regions with their population density divided in three categories: densely, moderately, and sparsely populated.

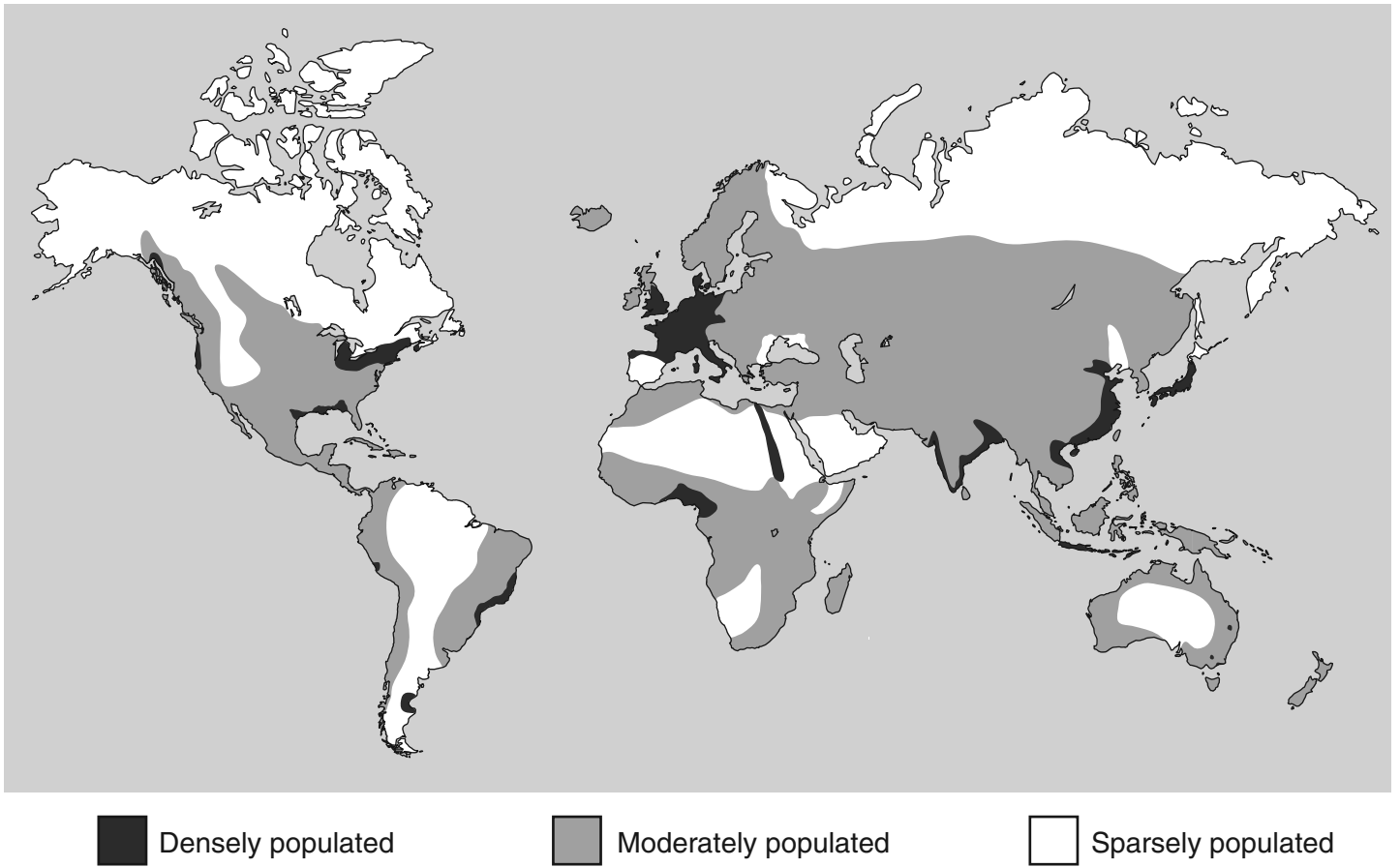


Fig. 1

(b) Explain **three** environmental reasons why some regions are sparsely populated.

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- 2 (a) (i) The distance between the goal posts on a football pitch is 8 yards and the height is 8 feet.

Convert **both** of these measurements to metres using the following:

1 yard = 0.9144 metres
3 feet = 1 yard

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..... [2]

- (ii) What level of accuracy do you think your answers should be rounded to and why?

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..... [2]

- (b) A football manager wants to arrange three players in a line. They are labelled **X**, **Y**, and **Z**. Show the different ways that the players can be arranged.

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..... [2]

(c) Pythagoras' Theorem can be used to check if a triangle has a right angle.

The formula is $A^2 = B^2 + C^2$

where **A** is the length of hypotenuse (the longest side) and **B** and **C** are the lengths of the two shorter sides.

Fig. 2 shows some measurements of a football pitch. A groundsman uses these when he marks out a football pitch. When he has finished, he measures the length of a diagonal to check whether the corners are right angles.

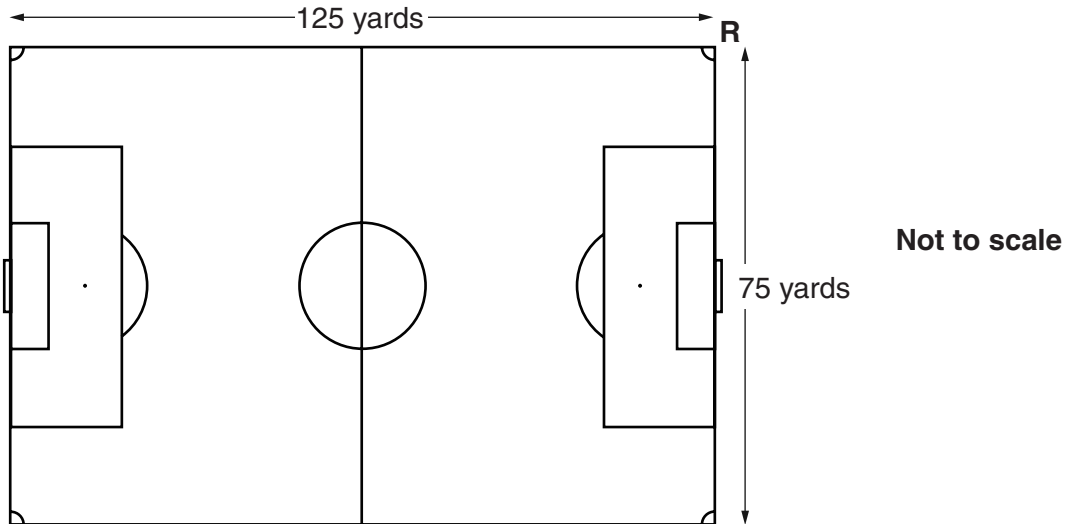


Fig. 2

He measured the diagonal to be 146 yards. Is the corner, marked **R** on the diagram, a right angle? Explain your conclusion.

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..... [4]

SECTION B

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

Answer in the space provided on pages 10 to 13.

- 3 A data logger is a small, portable electronic device that collects data from sensors. The following are examples of different types of data that could be collected:

• Heat	• pH
• Movement	• Sound
• Light	• Oxygen levels
• Wind speed	• Radiation

Outline and discuss the **advantages** to scientists of using data loggers.

[30]

- 4 The following needs may arise as the world's population increases:

- management of air pollution
- disease control
- fertility control.

Consider how the use of different timescales (short, medium and long term) might offer different solutions to **one** of these needs.

[30]

Fig. 5 Location of National Parks in the UK

Consider the environmental problems that the UK's National Parks face and discuss ways in which **each** of these problems might be managed. **[30]**

Write the number of the question answered in the margin.

A vertical margin line is positioned on the left side of the page. To its right, there are 25 horizontal dotted lines extending across the page, providing a grid for marking answers.

A large area of the page is filled with horizontal dotted lines, providing a space for writing. A solid vertical line runs down the left side of this area, approximately one-tenth of the way from the left edge, creating a margin.

A large area of the page is filled with horizontal dotted lines, providing a space for writing answers. A solid vertical line runs down the left side of this area, creating a margin.

END OF QUESTION PAPER

ADDITIONAL ANSWER SPACE

If additional answer space is required, you should use the following lined page(s). The question number(s) must be clearly shown in the margin.

A large area of lined paper for writing answers. It features a vertical margin line on the left side and horizontal dotted lines for writing. The lines are evenly spaced and extend across the width of the page.

A series of horizontal dotted lines for writing, with a solid vertical line on the left side.

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