



Rewarding Learning

ADVANCED SUBSIDIARY (AS)
General Certificate of Education
2013

Centre Number

71

Candidate Number

Geography

Assessment Unit AS 1

assessing

Physical Geography

[AG111]

FRIDAY 7 JUNE, AFTERNOON



TIME

1 hour 30 minutes.

INSTRUCTIONS TO CANDIDATES

Write your Centre Number and Candidate Number in the spaces provided at the top of this page.

Section A: candidates must answer this section.

Section B: answer **all three** questions in this section.

Section C: answer any **two** questions from this section.

You should write your answers in the spaces provided in this question paper.

At the end of the examination your summary of fieldwork and table of data should be attached securely to this paper using the treasury tag supplied.

INFORMATION FOR CANDIDATES

The total mark for this paper is 90.

Quality of written communication will be assessed in **all** questions.

Figures in brackets printed down the right-hand side of the pages indicate the marks awarded to each question or part question.

For Examiner's use only

Question Number	Marks
1	
2	
3	
4	
5	
6	
7	

Total
Marks

[2]

[5]

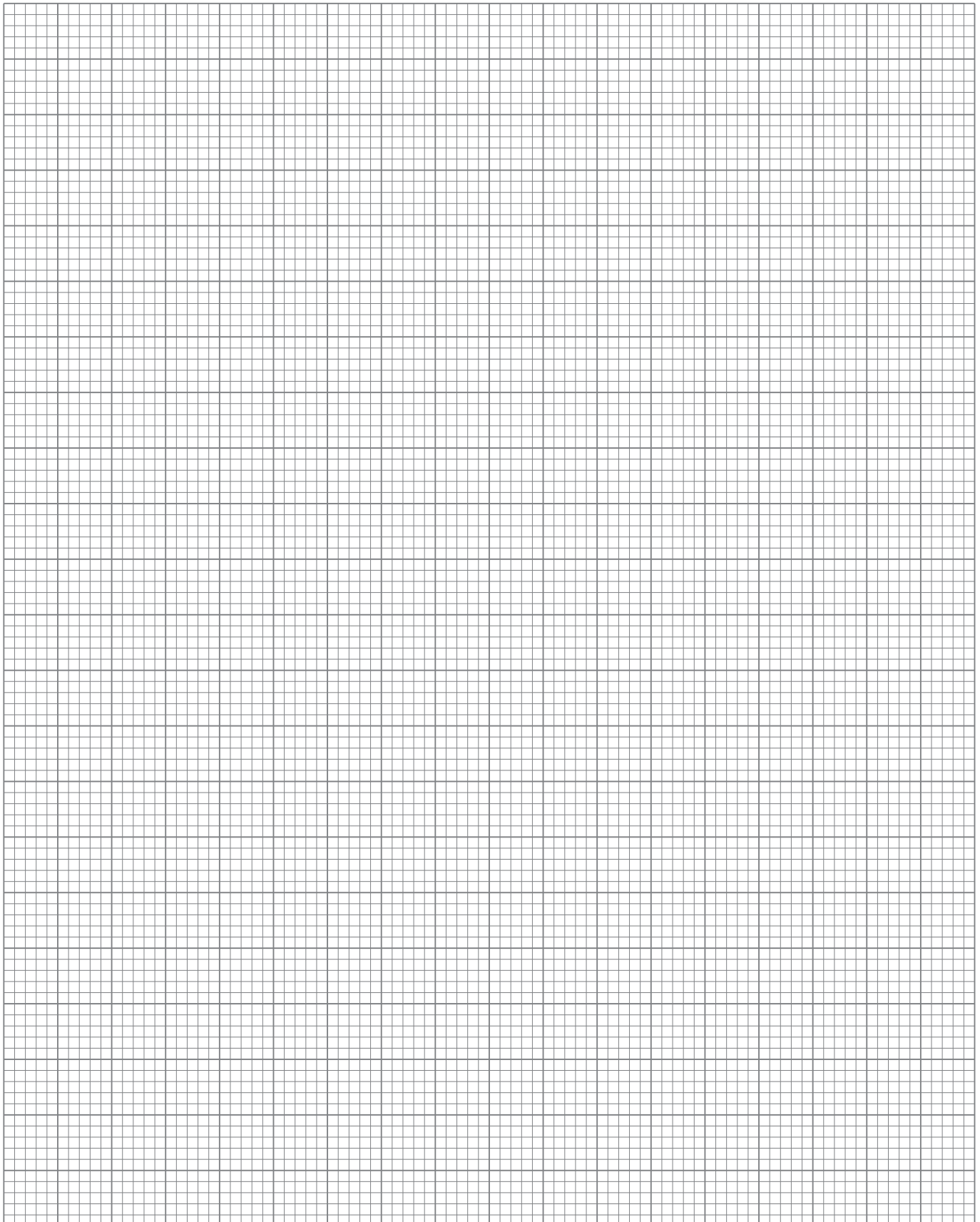
Examiner Only	
Marks	Remark

- (c) (i) Using some, or all, of the data from your table, draw a graph relevant to the aim of your fieldwork. The graph should be presented with accuracy on the graph paper below.

[7]

Title of Graph _____

Examiner Only	
Marks	Remark

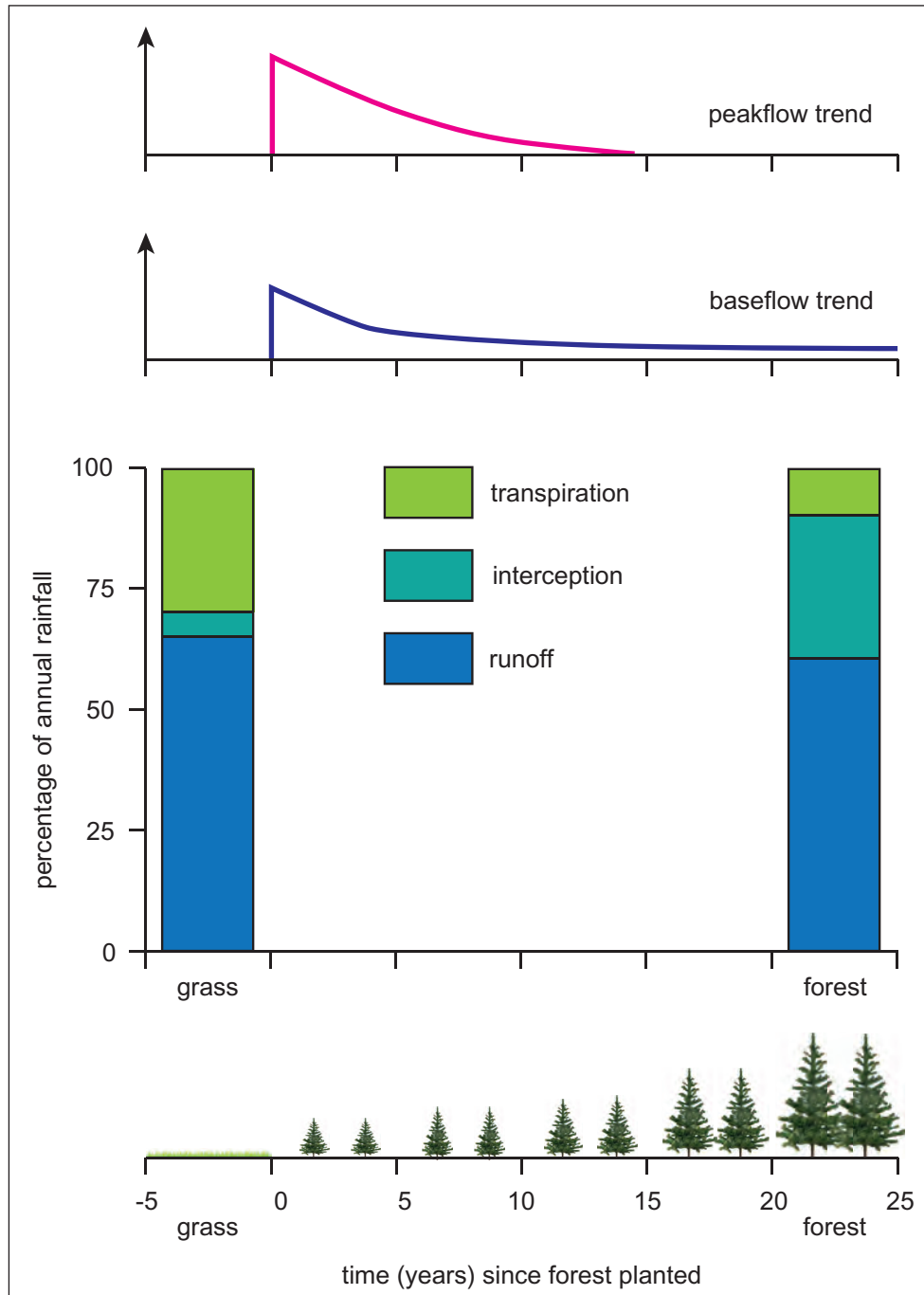


Section B

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

- 2 (a) Study **Resource 2A**, which shows the impact of land-use change in the River Coalburn drainage basin, north east of Carlisle in northern England. In this upland area, rough grassland was replaced with plantation forestry.

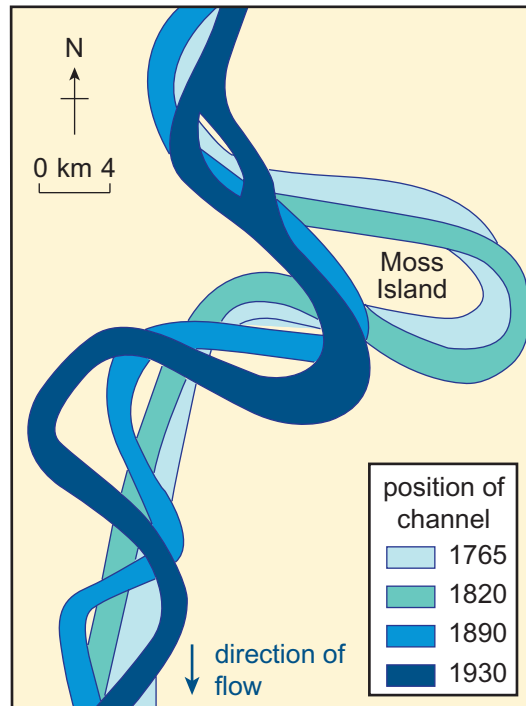
Resource 2A



© Institute of Hydrology Report Number 133 page 56 Fig. 26 by m Robinson, R E Moore, T R Nisbet & J R Blackie, 1998, published by the Centre for Ecology and Hydrology

- (b)** Study **Resource 2B** which shows the changing meander patterns over time on part of the Mississippi River in the USA.

Resource 2B



*Adapted from: © <http://projects.cie.org.uk/banglao/textbook/mississippimeanders/files/drainage.htm>
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Describe the changing pattern and explain the river processes which form these meanders.

[6]

Examiner Only	
Marks	Remark

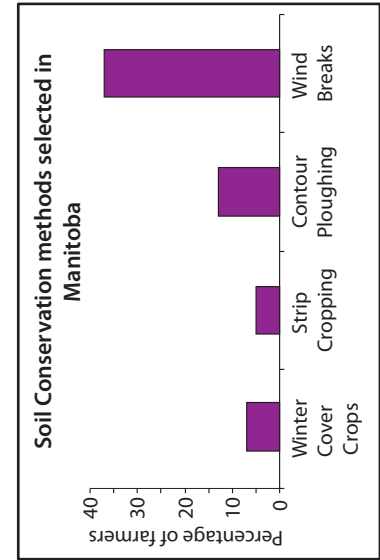
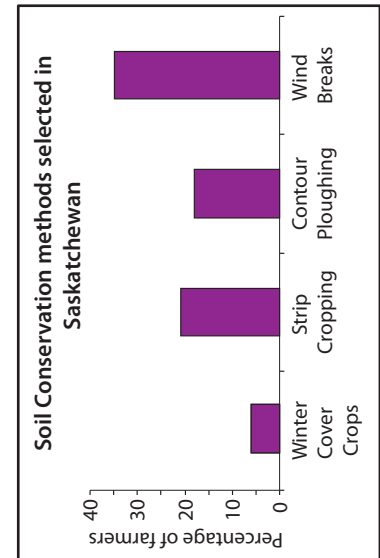
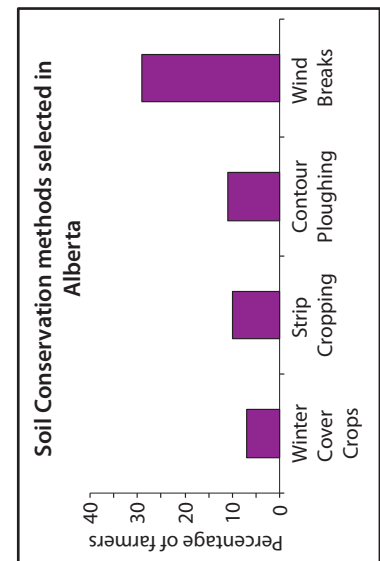
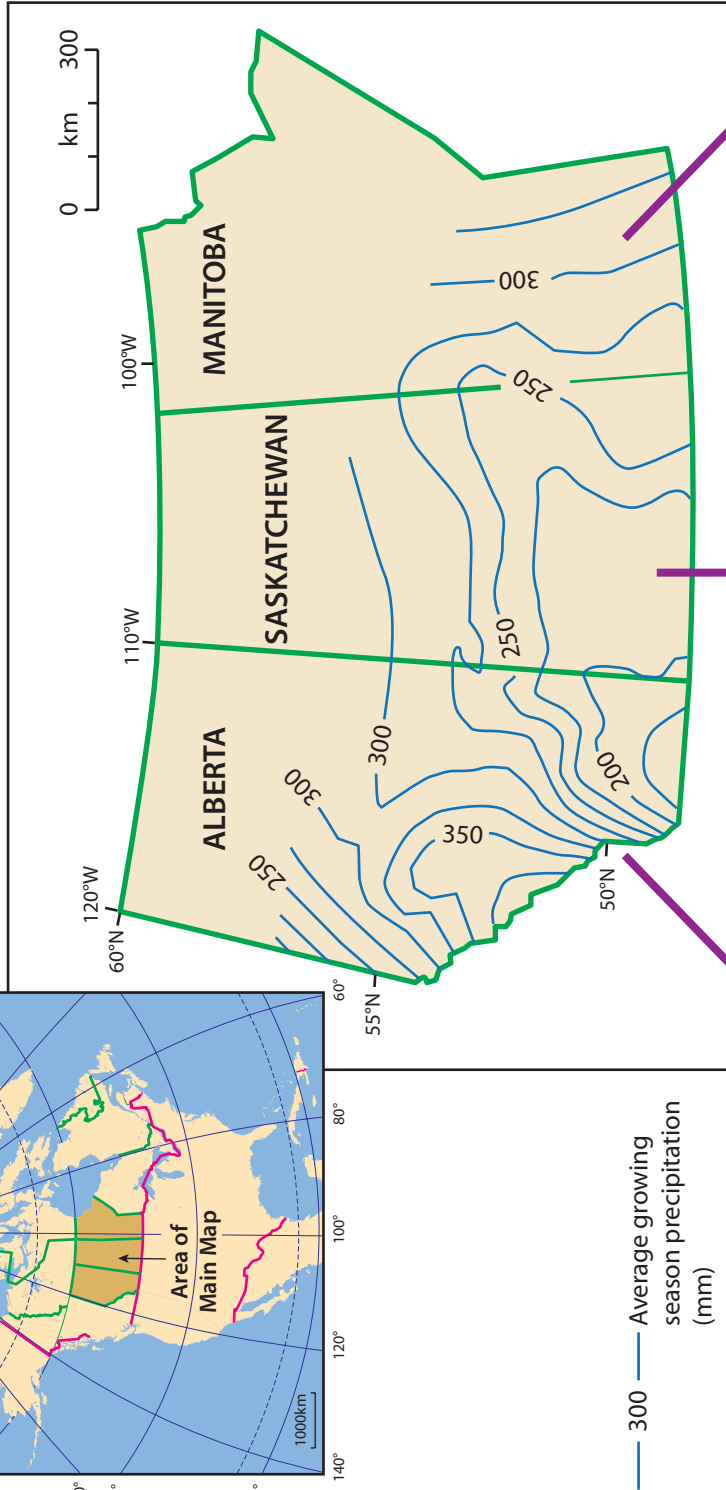
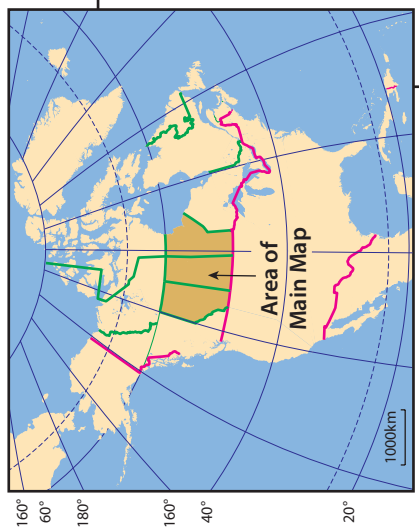
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- [1]

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- [6]

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Resource 3A



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- (b)** Study **Resource 3B** which shows the proportion of energy stored within the trophic levels of a food chain.

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(Questions continue overleaf)

The diagram illustrates the energy balance of the Earth's atmosphere and surface. It shows the following components and their percentages:

- Entering solar radiation top of atmosphere:** 100%
- REFLECTION:**
 - scatter: 6%
 - clouds: 21%
 - ground: 4%
- Absorption:**
 - molecules and dust: 18%
 - clouds: 3%
- Ground absorption:** The remaining energy is absorbed by the ground (land / ocean).

The diagram uses arrows to show the flow of radiation. A large arrow points down from the top of the atmosphere to the ground, representing the total incoming solar radiation. Smaller arrows branch off from this main path to represent reflection and absorption. The ground is shown as a shaded area at the bottom, with a box labeled 'Ground absorption' indicating the energy absorbed by the surface. The atmosphere is represented by the space between the ground and the top of the atmosphere.

(i) Complete the box in **Resource 4A** to show the percentage of energy available for absorption at the ground surface. [1]

-
-
-
-
- [2]

14

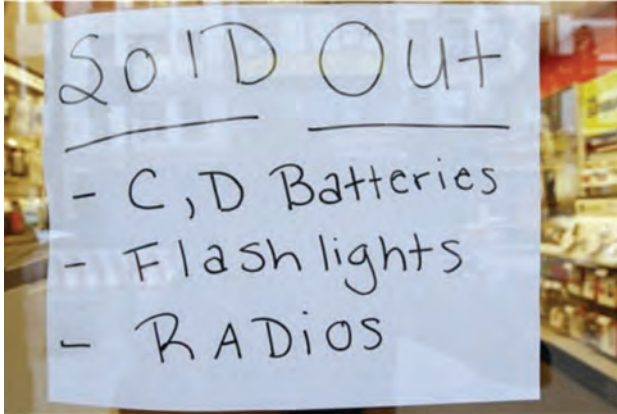
- (iii) Distinguish between **horizontal** and **vertical** heat transfers in relation to global energy balance.

[3]

Examiner Only	
Marks	Remark

- (b) Study **Resource 4B** which shows some of the protective measures used in New York in preparation for Hurricane Irene in August 2011.

Resource 4B



© Mario Tama / Getty Images



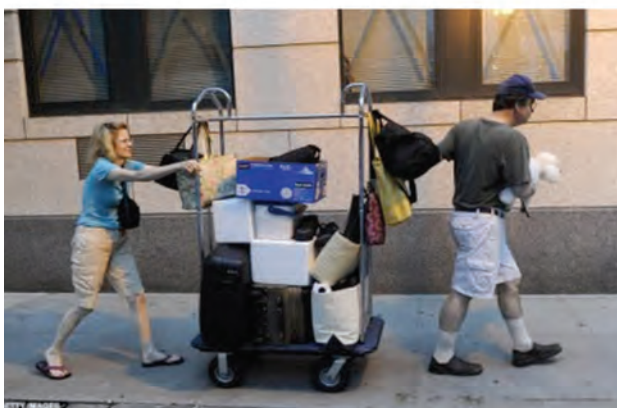
"2011 New York City Evacuation Zones Map" ©2011. New York City Office of Emergency Management. All rights reserved. "2011 New York City Evacuation Zones Map" used with the permission of the City of New York



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[6]

[Turn over

[illegible]

[illegible]

Question
Number

Number your answers clearly

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

THIS IS THE END OF THE QUESTION PAPER

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