

Candidate Name	Centre Number	Candidate Number
		2



**General Certificate of Education  
Advanced Subsidiary/Advanced**

443/01

**GEOGRAPHY – GG3α  
INVESTIGATIVE GEOGRAPHY  
A. PHYSICAL GEOGRAPHY  
INVESTIGATION  
B. HUMAN GEOGRAPHY  
INVESTIGATION**

P.M. THURSDAY, 17 January 2008  
(1½ hours)

For Examiner's use only	
Section A	
Section B	
Total	

**ADDITIONAL MATERIALS**

In addition to this examination paper you will need a calculator.

**INSTRUCTIONS TO CANDIDATES**

Write your name, centre number and candidate number in the spaces at the top of this page.

Answer **all** questions in the spaces provided.

**Your answers should be confined to the lined spaces provided. The lined sheets at the back of the book may only be used if you have made substantial deletions in your answers.**

**INFORMATION FOR CANDIDATES**

You are reminded that marking will take into account the quality of communication used in your answers.

The number of marks is given in brackets at the end of each question or part-question.

No certificate will be awarded to a candidate detected in any unfair practice during the examination.

**SECTION A. PHYSICAL GEOGRAPHY INVESTIGATION**

A group of three students, on a field course in October, were asked to investigate an area of coastal sand dunes. They were set the following question:

**‘Does this coastal area show a distinctive natural vegetation succession along a transect inland from the beach?’**

To do this, they decided to establish a transect going inland at a right angle from the high water mark. They were given permission to do this work in a conservation area where there was normally no public access.

- 1. (a) Explain why it was important for them to be able to undertake their transect work in a conservation area. [2]

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- (b) Suggest why it would have been better for the students to have recorded data along more than one transect. [3]

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2. The students decided to collect their vegetation data by taking measurements every 10 metres. They wanted to measure how the percentage ground cover of the different vegetation types changed along their transect, using a 1 m by 1 m quadrat.

(a) Name and describe **one** other sampling technique which could have been used to collect the required vegetation data along this particular transect. [3]

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(b) Explain why a quadrat was used to determine the percentage cover of the different types of vegetation. [3]

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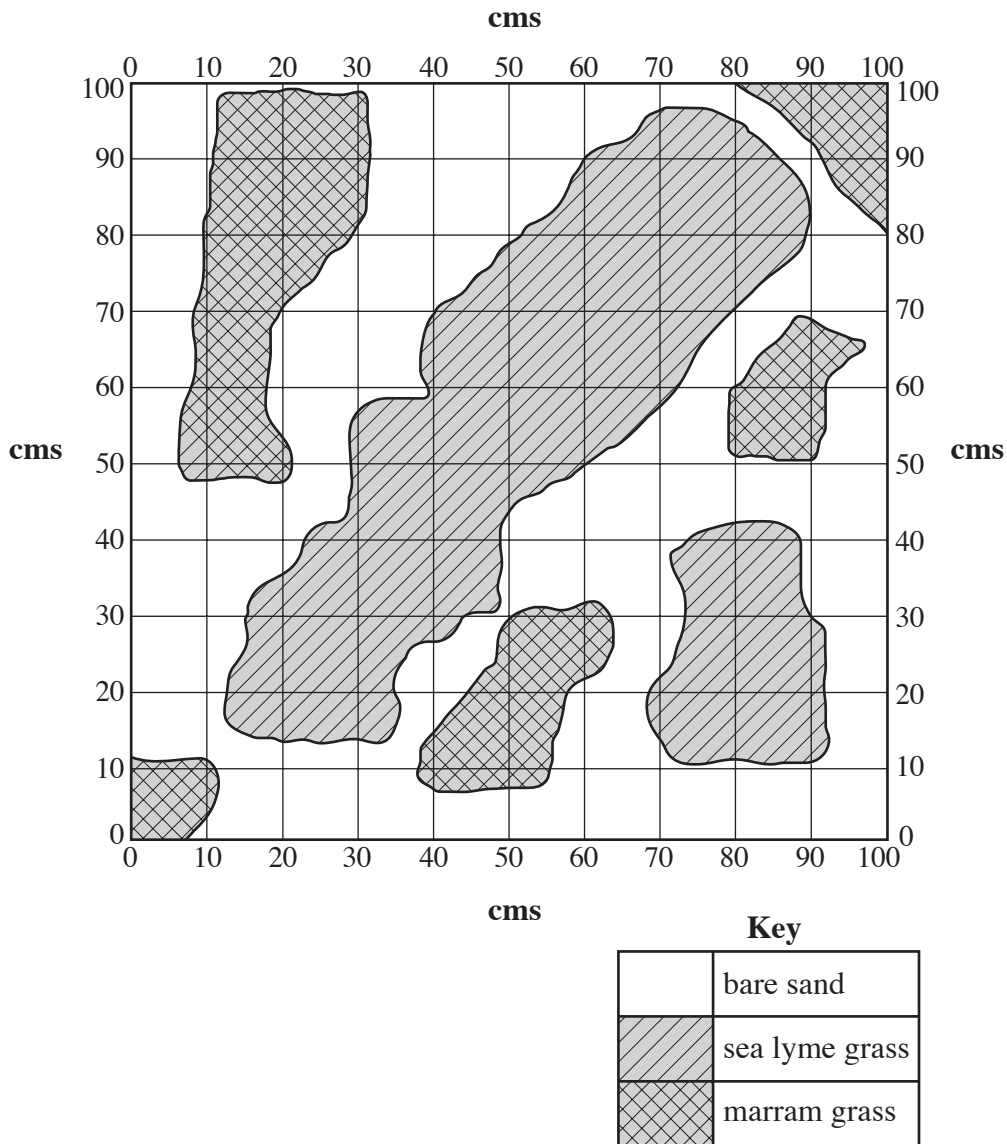
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3. **Table 1**, on **page 6**, shows the data that were obtained along the transect by the students. Two values are missing from the table. When you have answered Question 3 (a) and (b) below, you need to complete the table.

**Diagram 1**, below, shows the % vegetation cover recorded with a quadrat at a distance of 20 metres going inland along the transect from the beach.

- (a) Using **Diagram 1**, estimate the % cover of sea lyme grass. [1]

- (b) Using **Diagram 1**, estimate the % cover of marram grass. [1]



**Diagram 1**

4. The students then represented the data graphically to see if there were any specific patterns to the vegetation succession. **Diagram 2** on **page 7** shows how one student represented these data from **Table 1**.

(a) Complete **Diagram 2** by drawing in the percentage cover, at 20 metres, of sea lyme grass and marram grass. [1]

(b) Using **Table 1**, **Transect 1** and **Diagram 2**, describe the patterns of bare sand and types of vegetation along the transect. [5]

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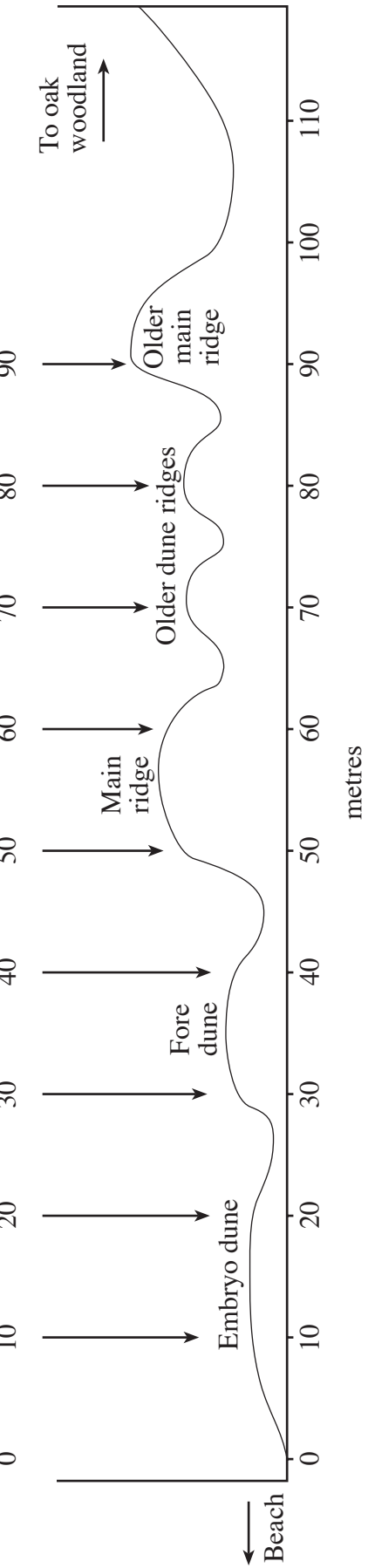
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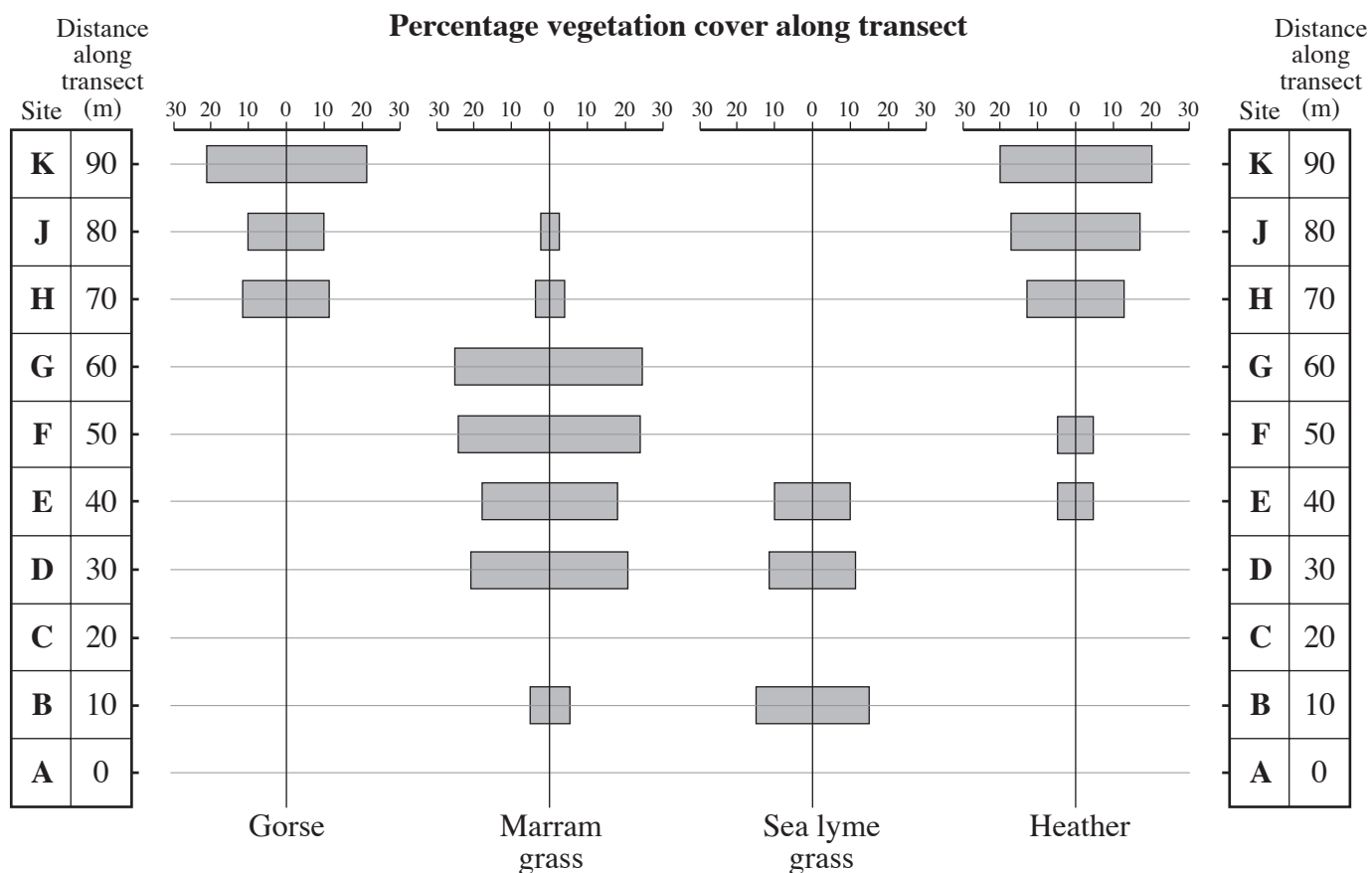
**Table 1**

**Percentage vegetation cover along a transect at a right angle from the beach.**

Site	A	B	C	D	E	F	G	H	J	K
Distance along transect (m)	0	10	20	30	40	50	60	70	80	90
% cover of bare sand	100	57	53	33	28	23	19	14	11	5
% cover of gorse	0	0	0	0	0	0	0	25	20	42
% cover of marram grass	0	14	0	43	37	51	53	8	5	0
% cover of sea lyme grass	0	29	0	20	18	0	0	0	0	0
% cover of heather	0	0	0	0	9	9	0	27	36	40
Other	0	0	0	4	8	17	28	26	28	13



**Transect 1**

**Diagram 2**

**Diagram 2** shows horizontal bars proportional to the percentage cover of vegetation type along the transect line. Thus 40% cover, as in the case of Heather at K, is shown as having 20% from **each** side of the transect line.





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**SECTION B. HUMAN GEOGRAPHY INVESTIGATION**

A student wanted to investigate the effects of pedestrianisation within part of the central area of his home town which had a population of 50,000. The pedestrianisation was completed in 2007.

- 1. (a) Explain why the fact that the pedestrianisation was completed recently made the investigation easier and more reliable. [3]

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- (b) Suggest why the student should have given his study a specific hypothesis or question as a title, rather than simply stating that he wanted 'to investigate the effects of pedestrianisation'. [2]

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- 2. (a) Outline **one** secondary source that would provide information about this central area before it was pedestrianised. [2]

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- (b) Explain why retailers would be an excellent primary source of information for this investigation. [2]

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3. The student wanted to see how the pedestrianisation had affected pedestrian numbers. He obtained information from the local council who had carried out a pedestrian survey at twelve selected points in 2004. He then undertook his own pedestrian survey at the same points to see if the numbers had altered. He counted the number of pedestrians who passed him in five minutes, the same length of time as the council survey.

(a) Apart from the impact of pedestrianisation, suggest **two** reasons why his study and that of the council might not be strictly comparable. [2]

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(b) Apart from any safety considerations, explain the need for the student to ask friends to help him collect data. [1]

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4. **Table 2**, below, shows the data obtained at the survey points before and after pedestrianisation of part of the town centre. **Maps 1** and **2** on **page 13** show the shopping streets of the town centre before and after the changes, the location of the twelve survey points and the pedestrian numbers.

Survey point	Street Name	Pedestrian Numbers: before pedestrianisation (2004 Council Survey)	Pedestrian Numbers: after pedestrianisation
A	Station Road	62	24
B	College Road	28	16
C	North Street	42	19
D	High Street	103	55
E	Newport Street	51	88
F	Rhyl Place	33	92
G	Cardigan Row	48	103
H	Gwent Street	84	61
I	Bangor Terrace	41	41
J	York Lane	30	83
K	Boundary Road	17	13
L	Adcock Avenue	13	9

**Table 2**

- (a) Name and justify one **cartographic** technique that could be used to represent the data in **Table 2** on the maps. [2]

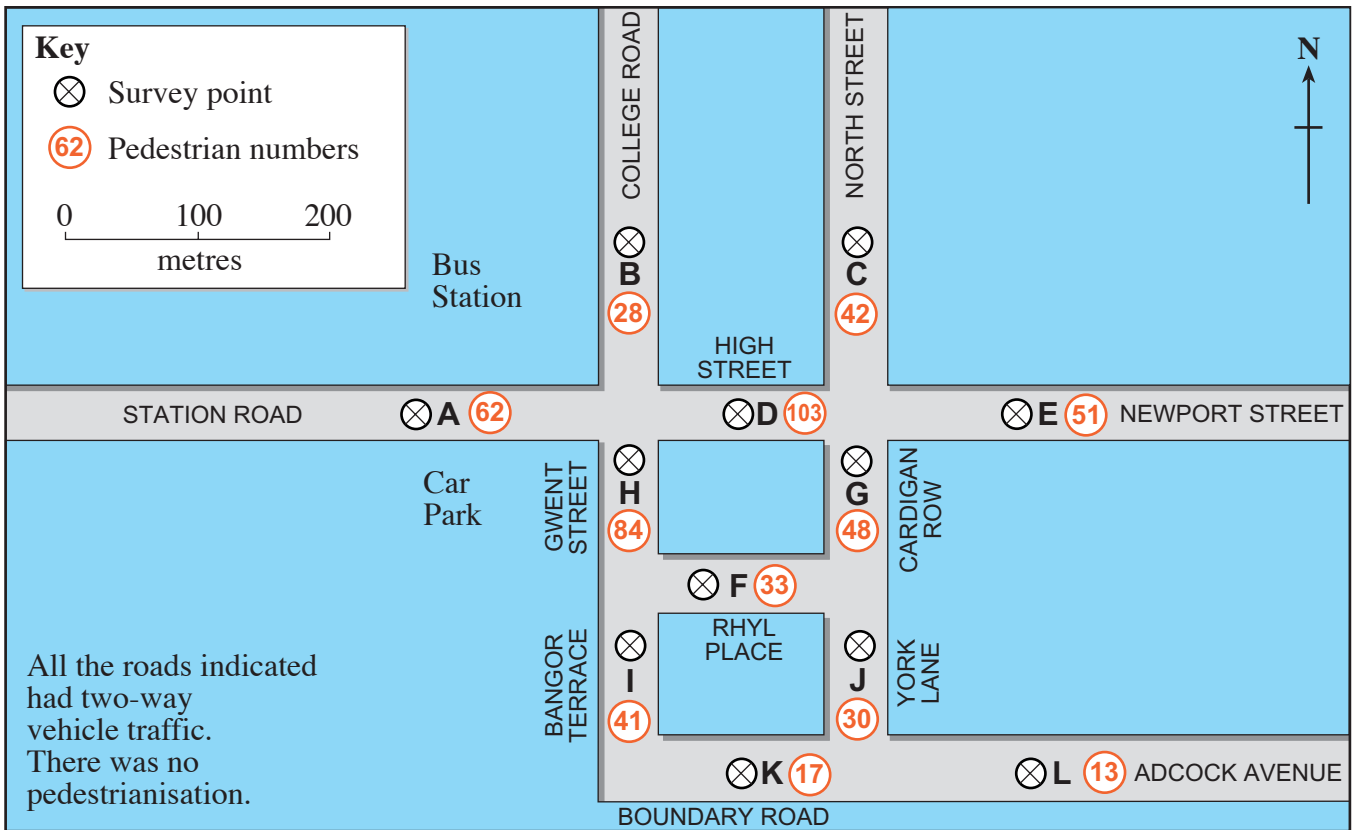
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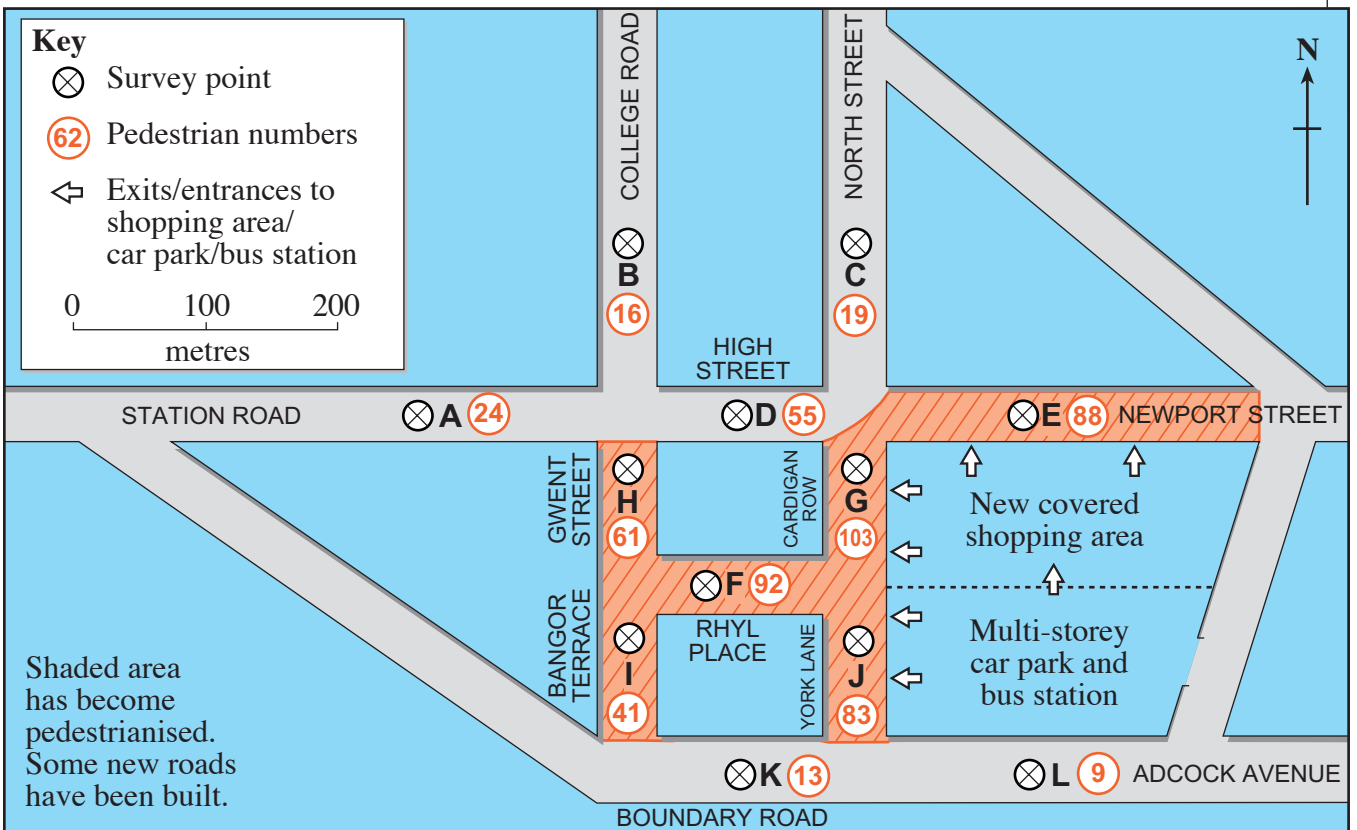
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Central area of town in 2004



Map 1

Central area of town in 2007



Map 2

(b) Using the data in **Table 2** on **page 12** and the information on the maps on **page 13**, describe and suggest reasons for the changes to the pedestrian numbers. [5]

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