

CANDIDATE
NAME

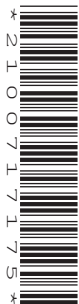
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CENTRE
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GEOGRAPHY

0460/42

Paper 4 Alternative to Coursework

February/March 2018

1 hour 30 minutes

Candidates answer on the Question Paper.

Additional Materials: Ruler
 Calculator

READ THESE INSTRUCTIONS FIRST

Write your Centre number, candidate number and name in the spaces provided.

Write in dark blue or black pen.

You may use an HB pencil for any diagrams or graphs.

Do not use staples, paper clips, glue or correction fluid.

DO NOT WRITE IN ANY BARCODES.

Write your answer to each question in the space provided.

If additional space is required, you should use the lined pages at the end of this booklet. The question number(s) must be clearly shown.

Answer **all** questions.

The Insert contains Figs. 1.4 and 1.5 and Tables 1.1, 1.2, 1.3 and 1.4 for Question 1, and Figs. 2.1 and 2.5 and Tables 2.1, 2.2 and 2.3 for Question 2.

The Insert is **not** required by the Examiner.

Sketch maps and diagrams should be drawn whenever they serve to illustrate an answer.

At the end of the examination, fasten all your work securely together.

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

This syllabus is approved for use in England, Wales and Northern Ireland as a Cambridge International Level 1/Level 2 Certificate.

This document consists of **15** printed pages, **1** blank page and **1** Insert.

1 Students in southern England did fieldwork at six sites on the River Meon.

The two hypotheses which the students tested were:

Hypothesis 1: *The cross sectional area of the river increases downstream.*

Hypothesis 2: *There is a relationship between the length and roundness of pebbles on the river bed.*

(a) Which **three** of the following factors would be important to consider when choosing these fieldwork sites? Tick (✓) your choices below.

Factor	Tick (✓)
Each site is on a meander in the river	
The river current must be fast flowing	
The river is not too deep to be able to stand in safely	
The sites are spread out along the course of the river	
The water is clean and unpolluted	
The sites are all on the river flood plain	

[3]

(b) To investigate **Hypothesis 1**, the students measured the width of the river and its depth at points across the channel at each site.

Describe how they made these measurements.

width

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.....

.....

depth

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..... [4]

- (c) The results of the students' measurements at site 5 are shown in Table 1.1 (Insert). Use these results **to complete the cross section** of the river at site 5, shown on Fig. 1.1 below. [2]

Cross section of the river at site 5

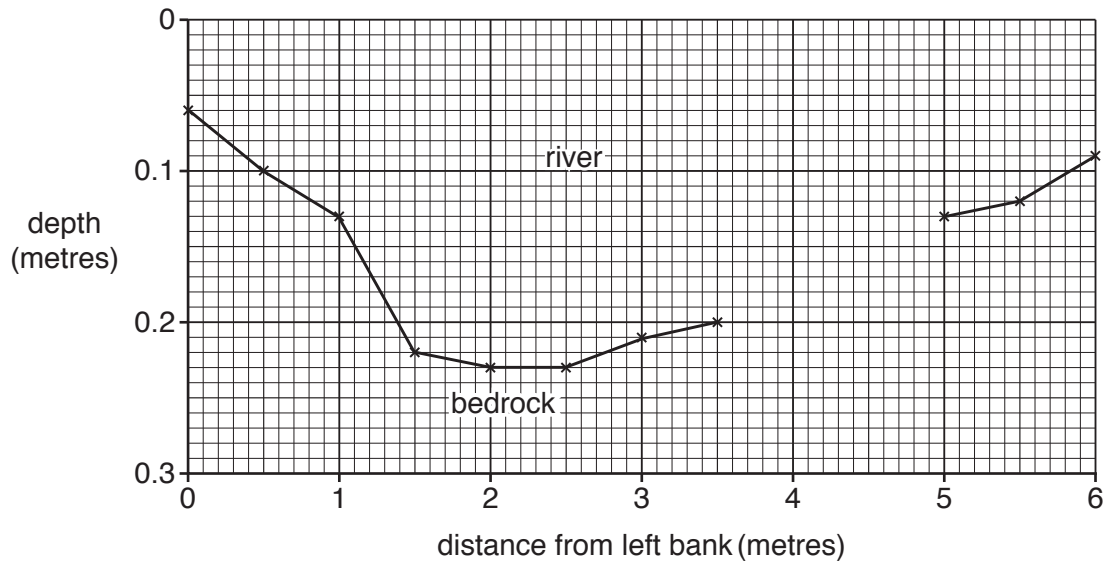


Fig. 1.1

- (d) The students recorded the width and calculated the mean (average) depth of the river at each site. Using these results, they also calculated the cross sectional area of the river at each site. These results are shown in Table 1.2 (Insert).
- (i) Using Table 1.2, tick **one** statement below which describes the change in width and mean (average) depth of the river between the six sites. Tick (✓) your choice.

	Tick (✓)
The width of the river increases at each site downstream	
The mean depth of the river increases at each site downstream	
The width and mean depth of the river increase and decrease downstream	

[1]

- (ii) Use the results of site 5 in Table 1.2 to complete Fig. 1.2, below.

[1]

Relationship between width and mean (average) depth at the six sites

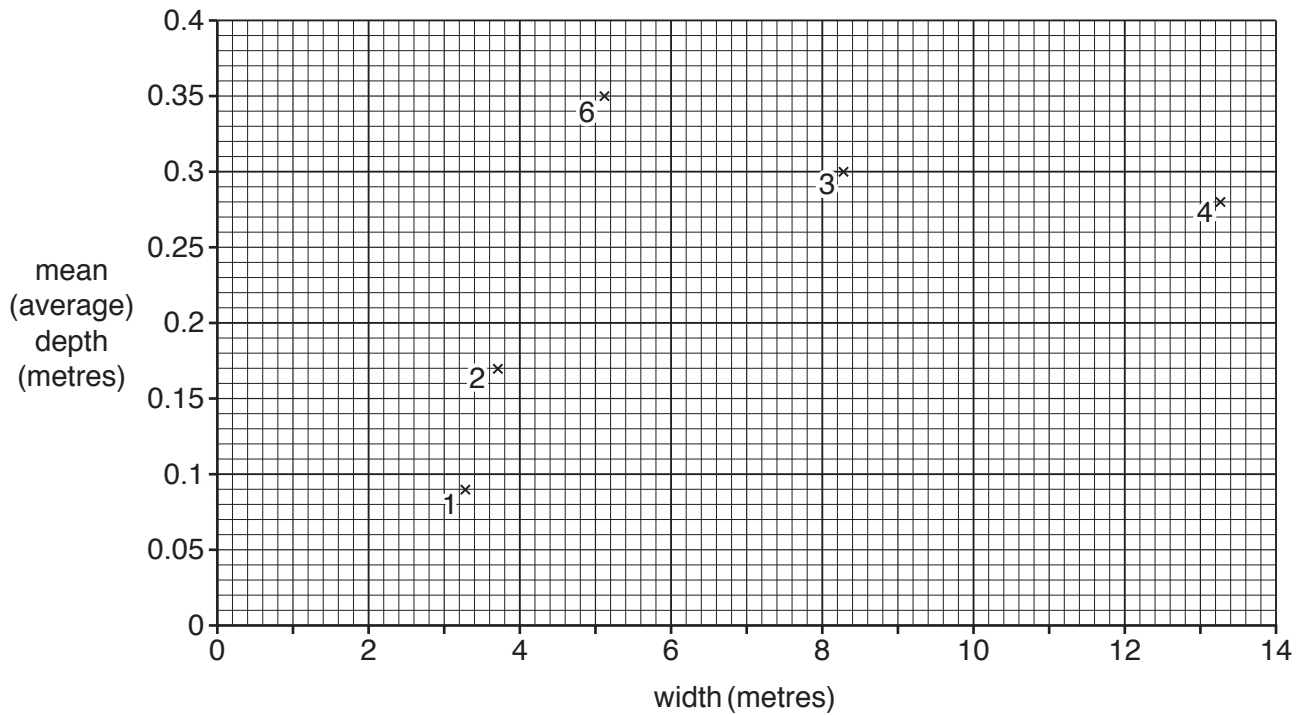


Fig. 1.2

- (iii) Use the results in Table 1.2 to plot the area of the river cross section at site 6 on Fig. 1.3 below.

[1]

Cross sectional area of the six sites

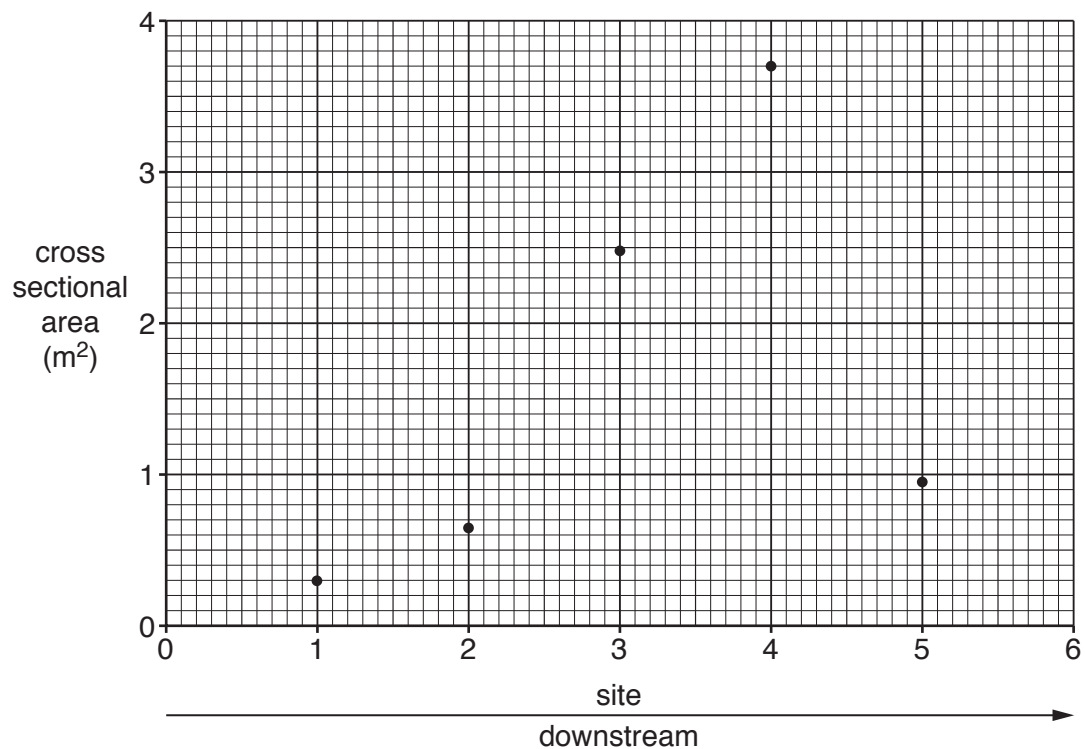


Fig. 1.3

- (iv) The students' conclusion about **Hypothesis 1**: *The cross sectional area of the river increases downstream* was that it was partly true.
Use evidence from Table 1.2 and Fig. 1.3 to support their conclusion.

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..... [4]

- (v) Explain why the width and depth of a river usually increase downstream.

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..... [3]

- (e) The students then made some measurements to investigate **Hypothesis 2**:
There is a relationship between the length and roundness of pebbles on the river bed.

- (i) At each site the students selected 20 pebbles at random from the bed of the river. They then measured the length (long axis) of the pebbles using callipers which are shown in Fig. 1.4 (Insert). Describe how the students measured the length of a pebble.

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..... [2]

- (ii) The students also classified each pebble into one of the six categories of the Power's Scale of Roundness which is shown in Fig. 1.5 (Insert).

The results of their classification of the pebbles at site 3 are shown in Table 1.3 (Insert). Which **two** pebbles at site 3 are classified as rounded?

Pebble numbers and [1]

- (iii) The mean (average) pebble length and pebble roundness results for each site are shown in Table 1.4 (Insert). **Plot the results of site 5** on Fig. 1.6 below. [2]

Mean (average) pebble length and pebble roundness

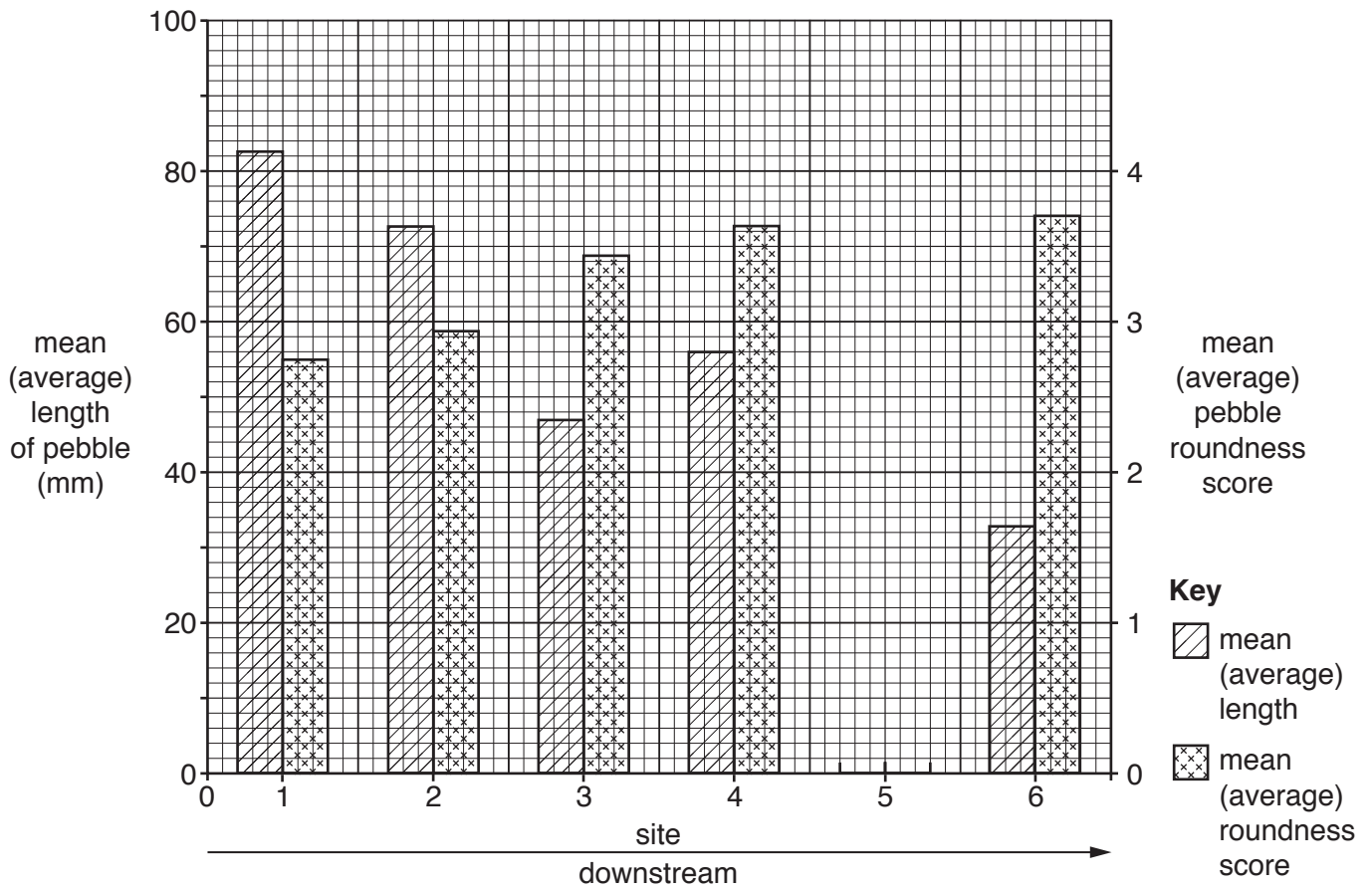


Fig. 1.6

- (iv) Which conclusion in the table below is most accurate for **Hypothesis 2**:
There is a relationship between the length and roundness of pebbles on the river bed?
 Tick your answer (✓). [1]

Conclusion	Tick (✓)
Pebbles are longer and more rounded downstream	
Pebbles are shorter and more rounded downstream	
There is no relationship between pebble length and roundness	

(v) Support your conclusion with data from two sites.

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.....[1]

(f) Suggest how the students could have improved their data collection methods.

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.....[4]

[Total: 30]

2 A class of students in Cairo, Egypt were studying population migration. They decided to do a fieldwork investigation about migration in their country.

(a) Before they began their fieldwork they revised key terms to do with migration.

(i) Define the following terms:

internal migration

international migration.
 [2]

(ii) Push and pull factors affect migration. Explain what is meant by a push factor **and** a pull factor.

.....

 [2]

The students decided to test the following hypotheses:

Hypothesis 1: *The reasons for migration to Cairo which are important to Egyptian males are different to the reasons which are important to Egyptian females.*

Hypothesis 2: *More migrants to Cairo come from rural areas in Egypt than from urban areas.*

(b) To test these hypotheses their teacher gave the students a questionnaire to use. This is shown in Fig. 2.1 (Insert).

(i) The teacher suggested that the students should ask the question ‘Have you migrated within Egypt?’ before giving the questionnaire to a person. Which **two** of the following explain why the teacher made this suggestion? Tick (✓) your choices below.

	Tick (✓)
Only people who had migrated will be able to answer the questions.	
By asking this question the students will get the answer to the two hypotheses.	
People might refuse to answer the questionnaire because they are busy.	
The students will not continue to ask their questions if the person is a tourist.	
People may be frightened about answering questions from a group of strangers.	

[2]

(ii) Suggest **three** other pieces of advice the teacher would have given the students about how to use the questionnaire.

1

.....

2

.....

3

.....[3]

(iii) Two age groups are missing from the questionnaire in Fig. 2.1. Add the **two** missing age groups to the table below.

Age group
16–30
61–75

[2]

- (c) (i) Table 2.1 (Insert) shows the results of Question 1 in the questionnaire. Use these results **to complete Fig. 2.2 below** to show the reasons why females moved to Cairo from other parts of Egypt. [2]

Answers to Question 1 in the questionnaire

What is the most important reason why you migrated to Cairo?

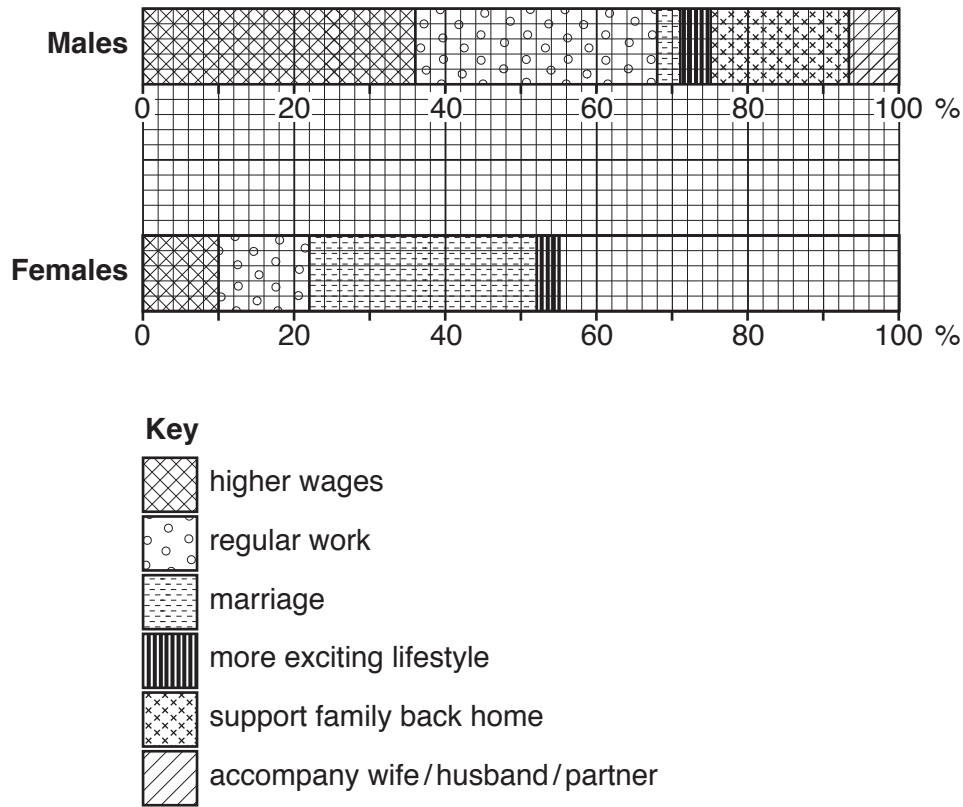


Fig. 2.2

- (ii) The students made the conclusion that their results did support **Hypothesis 1: The reasons for migration to Cairo which are important to Egyptian males are different to the reasons which are important to Egyptian females.** Support their conclusion with data from Fig. 2.2 and Table 2.1.

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..... [3]

- (d) (i) Table 2.2 (Insert) shows the results of Question 2 in the questionnaire. Use these results to plot the percentage of males migrating from urban areas in Fig. 2.3 below. [1]

Answers to Question 2 in the questionnaire

Did you migrate to Cairo from a rural area or an urban area?

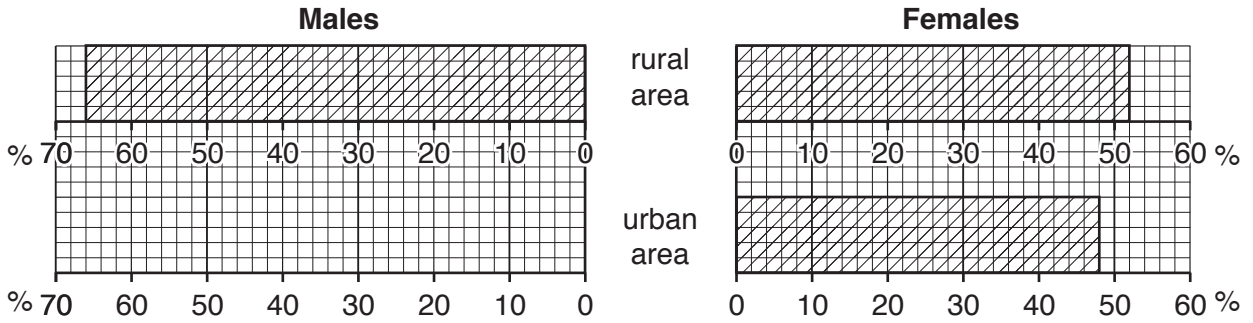


Fig. 2.3

- (ii) What conclusion would the students make about **Hypothesis 2: More migrants to Cairo come from rural areas in Egypt than from urban areas?** Use evidence from Fig. 2.3 and Table 2.2 to support your decision.

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.....[3]

- (iii) How could the students use the information from the questionnaire (Fig. 2.1) about which age group people were in?

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.....[2]

- (e) (i) One student used a source of secondary data to research the numbers of people who had migrated from Egypt to other areas of the world.
 What is meant by *secondary data*? Give **one** example of a source of secondary data.

.....

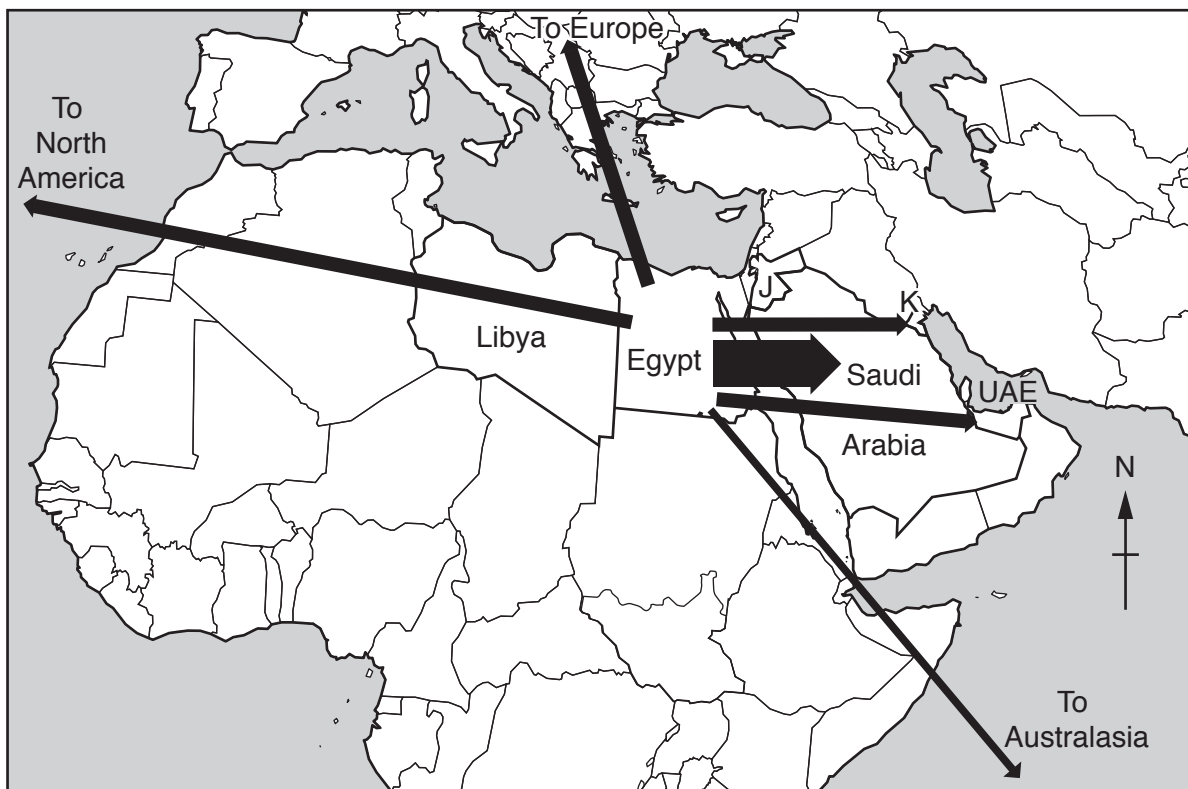
.....

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.....[2]

- (ii) The results of the student's research are shown in Table 2.3 (Insert). Use the results to complete Fig. 2.4 below by plotting the number of migrants to Libya and Jordan. [2]

Main areas to which Egyptians migrated



Key

- J = Jordan
- K = Kuwait
- UAE = United Arab Emirates

Scale

- number of migrants
- less than 200 000
 - 200 000–400 000
 - 400 001–600 000
 - more than 600 000

Fig. 2.4

(iii) Fig. 2.5 (Insert) is a different method of showing the results in Table 2.3. Which **one** of the methods shown in Figs. 2.4 and 2.5 do you think best shows the results? Give **two** reasons to support your choice.

Fig.

1
.....
2
..... [2]

(iv) Identify **two** main trends of migration from Egypt which are shown in Figs. 2.4 and 2.5.

1
.....
2
..... [2]

[Total: 30]

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