**CAMBRIDGE INTERNATIONAL EXAMINATIONS**

**Cambridge International General Certificate of Secondary Education**

# MARK SCHEME for the October/November 2015 series

## 0460 GEOGRAPHY

**0460/41** Paper 4 (Alternative to Coursework), maximum raw mark 60

This mark scheme is published as an aid to teachers and candidates, to indicate the requirements of the examination. It shows the basis on which Examiners were instructed to award marks. It does not indicate the details of the discussions that took place at an Examiners' meeting before marking began, which would have considered the acceptability of alternative answers.

Mark schemes should be read in conjunction with the question paper and the Principal Examiner Report for Teachers.

Cambridge will not enter into discussions about these mark schemes.

Cambridge is publishing the mark schemes for the October/November 2015 series for most Cambridge IGCSE®, Cambridge International A and AS Level components and some Cambridge O Level components.



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**1 (a) (i)** Use tape to measure distance
Students hold ranging poles at either end of measured distance
Poles must be vertical
Student holds clinometer next to top / at agreed height on ranging pole
Sight / line up other ranging pole at top / agreed height
Read off the angle / measure angle / record angle / measure degrees – need reference to **clinometer** [4]

**(ii)** Advantage:
Give instant reading / faster / quicker
Precise / accurate measurement or reading / exact figure
Easy to use / clear to read / large digital readout / hard to read clinometer
Don't need to know how to use a clinometer / don't have to read off clinometer
Less chance of making mistake in reading / misreading
Easier to reset
Can download results to computer / save data
Easy to carry / portable

Disadvantage:
May not understand how to use the app
May drop phone into river / phone is fragile / phone gets wet
Phone may not be charged up/ battery may run out [2]

**(iii)** These results are anomalies / do not fit with other results / too big / too small / not near the average
Results are measured incorrectly
Remove the effect of the anomaly on the average / would affect the results
Give a more reliable / accurate average result / result not reliable / inaccurate [2]

**(iv)** Average = 5.8° Accept 5.83 ✓JU
Credit in table or in space for calculation [1]

**(v)** Result of **a(iv**) plotted on Fig. 3 (ecf) [1]

**(vi)** Results **support** hypothesis – 1 mark reserve (✓HA)
Credit paired **average** data from different sites to 2 marks max 3 sites + data = 2 marks, 2 sites + data = 1 mark
e.g. 17.2° at site 1 / 90 m, 11.2° at site 2 / 70 m, 5.8° at site 3 / 45 m
OR 6° decrease between sites 1 and 2, 5.4° decrease between sites 2 and 3, 11.4° decrease between sites 1 and 3 – up to 2 marks
OR Upstream is 17.2°, decreases to 11.2° and downstream is 5.8° = 2 marks
OR Range of measurements: at site 1 between 15–19°, at site 2 between 9–13°, at site 3 between 4–8°

Results do not support / partially support hypothesis = 0 (XHA)
If no hypothesis conclusion ^HA & credit evidence [3]

**(b) (i)** Includes three different measurements
Length alone may be out of proportion with other measurements / height or width may vary / where 2 pebbles with same length width may be larger in one of them / rock may have long length but short width [1]

**(ii)** Callipers, ruler 2 @ 1 [2]

**(iii)** Plot 101–200 = 4, 201-300 = 3, 301–400 = 1
All correct = 2 marks
1 or 2 correct = 1 mark [2]

**(iv)** Load size increases from site 2 / 70 m to site 3 / 45 m OR site 2 has smallest average OR load size goes from large to small to large again
Pebbles of all different sizes / big pebbles / small pebbles are found at each site

Credit comparable data to 2 marks max
e.g. average size at site 2 = 135.4 $cm^3$ and average size at site 3 = 189.5 $cm^3$
e.g. 1 pebble of 401–500 $cm^3$ in site 3 but 0 in site 2
e.g. 0 pebbles of 301–400 $cm^3$ in site 1, 1 in site 2, 3 in site 3 (any 2 stats)

No hypothesis mark [3]

**(c) (i)** Plot bars at 1.2 m = 80 $cm^3$, 3.0 m = 165 $cm^3$ 2 @ 1 [2]

**(ii)** Largest pebbles are located furthest from inside bank / nearer to outside bank
Volume / size of pebbles increases away from inside bank / towards outside bank [1]

**(iii)** Speed of flow / current varies across meander
Stronger current / more energy on outside of meander
More power to move larger rocks [2]

**(d)** Measure more pebbles at each site across river
Measure at more / shorter distances across river / every 10 or 20 cm
Do more gradient measurements **and** calculate average
Investigate more than three sites
Get another student to check measurements / check / compare measurements in pairs / with partner / within group
Measure weight of rocks
Use a pebbleometer / measuring cylinder

Repeat the anomalous readings [4]

**[Total 30 marks]**

**2 (a) (i)** Well-kept vegetation which is regularly maintained
Vegetation is maintained but not to a high level
Vegetation is not maintained and is overgrown
Very little vegetation, land is derelict [1]

**(ii)** Scores are subjective / personal opinion / students live in different types of area / students from different class backgrounds
Looking in different directions
Looking in different parts of the area [1]

**(iii)** Different students or groups go to different areas
Agree on time of survey / all surveys done at same time / start and finish at same time
Use agreed categories / descriptions
Produce a recording sheet for survey / a survey sheet
Look at the area and decide the score
Calculate an average score from the individual student results [4]

**(b) (i)** Building condition = 2
Public open space = 4
Traffic = 2
Noise = 3 [1]

**(ii)** Plot Centre at 0.4 km = 8, Fant at 1 km = 9 Need names 2 @ 1 [2]

**(iii)** Conclusion is **partly true** – 1 mark reserve (✓HA)
4 locations (or all 4 named) support hypothesis / match pattern
Shepway is the anomaly in the pattern
NB: All areas except Shepway support hypothesis = 2 marks

Credit paired data (distance and environmental quality score) to 2 marks max. Don't need name of area. For 2 marks need 1 supporting stat and 1 anomaly stat
e.g. (Tovil) score is 11 at 1.7 km and (Shepway) score is 7 at 3 km and – anomaly
e.g. (Tovil) score is 11 at 1.7 km and (Loose) score is 15 at 3.5 km – supports [4]

**(c) (i)** Advantages such as:
No need to spend time asking people individually to complete questionnaire / work could be completed by one student
Safer than approaching strangers in the street
Overcomes problem of reluctance to approach people
Can deliver leaflets more quickly than using questionnaire with people
Gives the opportunity to get more responses than would be able to complete questionnaire on street / many people do it at same time
Can use IT to total results / complete graphs
People can complete questionnaire when they want / take their time / more time to answer / not feel pressurised
People complete questionnaire without feeling they are being judged
No bias in selection of people to do questionnaire

Disadvantages such as:
People may ignore leaflet or questionnaire / people may not return / complete questionnaire
Still need to go out to put leaflets through doors
People may complete questionnaire incorrectly / not take it seriously / may lie
People may not be able to access on-line questionnaire / not IT literate / no internet / IT problem such as internet may not work
May be completed by children / whole family together / anybody can answer it / no control over who answers it
Cannot get advice while answering questionnaire / do not understand what to do
Results are not instant / have to wait for results / delay in returning results
2 + 2 [4]

**(ii)** Completion of pie chart for Fant
Unsafe = 20%, Very unsafe = 15%
1 mark for dividing line at 85%, 1 mark for shading [2]

**(iii)** Completion of divided bar graph for Fant
People do not mix = 32%, People are unfriendly = 24%,
People are hostile = 4%
1 mark for dividing lines at 72 and 96%, 1 mark for shading [2]

**(iv)** Tovil – 1 mark

Fig. 10
Highest percentage / amount / 95% feel safe or very safe
Credit percentage if figure is correct
OR more or most feel very safe or safe **than in other areas** / less or least feel unsafe or very unsafe **than in other areas**

Fig. 11
Highest percentage / amount / 39% care for other people
Credit percentage if figure is correct
OR most or more care for / are friendly to other people **than in other areas** / least or less says people are hostile **than in other areas** [3]

**(v)** Evidence may be statistics or comparison of areas

Fig. 10 / Table 5
More / larger percentage of people feel unsafe / very unsafe in Shepway than Centre (Need comparison & 2 named areas. Do not need distance from CBD)
OR 26% feel very unsafe in Shepway and 18% feel very unsafe in Centre (Need stats from 2 named areas. Do not need distance from CBD)
OR Shepway has highest / percentage / most / 26% who feel very unsafe and is one of the furthest sites out from the CBD (Need 1 named area and reference to distance and percentage)

Fig. 11 / Table 6
More / larger percentage of people do not mix at Loose than Fant (Need comparison and 2 named areas. Do not need distance from CBD)
OR 41% do not mix in Loose and 32% do not mix in Fant (Need stats from 2 named areas. Do not need distance from CBD)
OR Tovil has highest percentage / most / 39% of people who care for others and it's not the furthest out from the CBD (Need 1 named area and reference to distance and percentage)

Table 7
More / larger percentage of people have been victims of theft in Shepway than Centre (Need comparison and 2 named areas. Do not need distance from CBD)
OR 24% have been victims of theft in Shepway and 18% have been victims of robbery in Centre (Need stats from 2 named areas. Do not need distance from CBD)
Shepway has highest percentage / most / 39% vandalism and it's one of the sites furthest from the CBD (Need 1 named area and reference to distance and percentage)

No hypothesis mark 3 @ 1 [3]

**(d)** Taken photographs of the different areas
Used secondary data, e.g., crime statistics / internet / statistics from police
Interviewed residents to find out their reasons for living in different areas / ask people / ask questions
Interview police officer / councillor
Participant observation / live in the area
Physical collection of data such as measure the amount of noise / atmospheric pollution [3]

**[Total 30 marks]**