

**MARK SCHEME for the May/June 2012 question paper
for the guidance of teachers**

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 must be read in conjunction with the question papers and the report on the examination.

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- 1 (a) (i) Hold the tape measure/it at the other end of transect line
 Measure from tape/transect line to ground
 Record results/read results off ruler/read measurements
 Measure 50 cm interval across tape
- (ii) Diagram includes:
 Frame of quadrat
 Internal squares of quadrat 5 × 5, 6 × 6, 10 × 10 (any equal number)
 75/25 split
 Labels include:
 Quadrat/frame
 Internal squares
 Vegetation (75%) and bare soil (25%)
 1 mark max for labelling
- Need square outline to consider answer (no pie chart/triangle/sketch) [4]
- (b) (i) Cross-section completion – plots and line
 2.5 m = 36 cm
 3 m = 30 cm
 1 mark for both plots, 1 mark for line [2]
- (ii) Grassland cross-section Woodland cross-section
 Wider/greater distance **across footpath** Narrower/less distance **across footpath**
 Gentler slopes/sides Steeper slopes/sides
 Less deep Deeper
- Need comparison
- Accept paired figures if used in comparison: woodland = **only** 5 m wide and grassland = 8 m wide
 Woodland = 36 cm deep and grassland = **only** 14 cm deep
- NOT:
 Lower
 More constant slope in grassland
- 3 @ 1 [3]
- (iii) Hypothesis is correct/agree/footpath erosion does increase towards centre – 1 mark reserve
 If say disagree = 0
- Path/paths is deep in centre/2.5 m in woodland path/4 m in grassland path
- Accept figures such as
 Woodland path in centre/2.5 m across = 36 cm
 Grassland path in centre/4 m across = 14 cm [2]
- (c) (i) Kite diagram completion – 2 marks for plots, 1 mark for correct shading
 7.5 m = 90%
 8 m = 96% [3]

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- (ii) Credit paired figures of centre and edge of paths (up to 2 marks)
Must specify **which path**
Woodland: centre/2.5 m = 0%, edge/0 m/5 m = 82/80%/around 80%
Grassland: centre/4 m = 40%, edge/0/8 m = 93/96 %/more than 90%

2 @ 1 [2]

- (iii) Grassland path is on gentle slope/woodland path is on steep slope (1)
So easy to walk on/**so** hard footsteps/lots of force (1)

Grassland path is wide/Woodland path is narrow (1)
So walkers will spread out more OR more even erosion/more even trampling of vegetation (1)
So less opportunity for walkers to spread out OR more concentrated erosion/more concentrated trampling of vegetation (1)

Viewpoint attracts **more** walkers/bridge or river attracts **fewer** walkers (1)
So more people on woodland path/so less people on grassland path (1)

Must specify which path is being described

No double credit for opposites

NOT:

Grass protects soil more than woodland
Roots hold soil together
Difference in soil moisture
Paths are different lengths

[4]

- (d) Drainpipe/pipe/tube
Knocked/pushed **into** ground
Measured amount of water/equal amount of water
Poured into tube
Stopwatch/timer
To measure time for water to soak into ground
Repeat and calculate average

1 mark max for equipment (pipe/stopwatch)

NOT:

Water poured onto ground
Pipe put on ground
Hammer
Soil put into container

[3]

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- (e) Ideas such as:
Create permanent path/tarmac path/rocks in path/bricks/tiles/steps to go uphill
Restore eroded footpaths/fill in hole
Alternative/signposted paths/more paths
Improve drainage
Re-seeding around footpath/more grass around path
Prohibit use/allow treated paths time to recover/restrict access times /
'keep off' signs
Small/low bridges/boardwalks/walkways
Education about/raise awareness of footpath erosion

- NOT:
Widen footpath
More vegetation around path
Plant trees for roots to stabilise soil
Netting
Zip line
Level off ground
Fence off sides of path
Don't walk on same path

[4]

[Total: 30 marks]

- 2 (a) (i) Stratified sampling/reflect population
Appropriate gender balance/age balance/avoid bias/mix of age/gender

Systematic sampling/e.g. asking every tenth person
Quick/avoids bias

Random sampling/e.g. ask the next person they meet/random numbers
No selection criteria/quick/random numbers avoids bias

Credit 1 mark for named sampling method or description [2]

- (ii) 15 -30 ✓ and 31- 60 ✓
BUT: 15 – 40 ✓ and 40 – 60 ×
16 – 20 × and 40 – 60 ×
Accept reasonable age ranges

2 @ 1 [2]

- (iii) All ticks in correct boxes on Fig. 4
Top
Top
Middle
2
4 or more

[1]

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- (iv) River/stream/lake
 Water tank/**collect** rainwater
 Road tanker/water truck
 Well/pump
Bottled water

NOT:
 From sea
 Buy water from shop
 Recycled water
 Fountain

2 @ 1 [2]

- (v) May be obtaining electricity supply illegally/may be reported
 Shame of not having electricity/not want to admit

NOT:
 Don't know where electricity comes from [1]

- (b) (i) Divided bar graph completion – 2 marks for divisions at 18 and 90
 1 mark for correct shading/labelling
 If not drawn in correct order go to 2 marks max
 If lines at 10, 18 and 72 go to 1 mark [3]

- (ii) Bar graph completion 80% city authority & 18% cable
 No mark for shading

2 @ 1 [2]

- (iii) Yes/results support hypothesis/hypothesis is correct/services are better in squatter settlement A – 1 mark reserve
 If say No = 0

Need comparison – more or paired figures
 1 comparison from each of tables 2, 3 and 4
 In settlement A:

More taps in the home OR have own water supply/72% in A and 5% in B
 Less have to use standpipe/18% in A and 38% in B

More toilets in the home OR have own toilet/51% in A and 0% in B
 Less have to use public toilet/49% in A and 100% in B

More have legal electricity supply/from city authority/80% in A and 17% in B
 Less have to obtain electricity supply illegally/attaching a cable/18% in A and 47% in B
 Less have no electricity supply/2% in A and 36% in B

Accept opposites in settlement B, but no double credit. [4]

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- (c) (i) Pie graph completion – 1 mark for division, 1 mark for shading
1 room = 64%
2 rooms = 30%
- NOT:
2 rooms first, but still credit shading if it matches correct percentage figures [2]
- (ii) 1
Larger
- 2 @ 1 [2]
- (iii) Completion of pie graph key – shading 4 categories
All pairs correct = 2 marks, 2 or 3 correct = 1 mark, 1 correct = 0 marks
Shading is same order as settlement A in Fig. 8
1 person
2 people
3 people
4 or more people
- 1 mark max if don't include 'people'
1 mark max if order of key is incorrect [2]
- (iv) In settlement B
There are more/larger % of homes with 4 or more people
There are less/smaller % of homes with 1/2/3 people
Can score both marks for statements
Accept opposites in settlement A, but no double credit.
- 4 or more: 86% in B and 62% in A
3: 10% in B and 20% in A
2: 3% in B and 12% in A
1: 1% in B and 6% in A
- Need both figures for credit
Can score both marks for paired stats
- Allow 1 mark for **similarity** between settlements, such as majority/60% of homes have four or more people living in them
- NOT:
More in homes in settlement B
Crowded [2]
- (v) No/results do not support hypothesis/hypothesis is incorrect/less crowded in A – 1 mark reserve
If say Yes = 0
- There are **more rooms** per house in A and **less people** per house in A
There are **fewer rooms** per house in B and **more people** per house in B
Allow cross-reference between these two lines
No credit for % figures without interpretation e.g. only [2]

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- (d) Safety of students/mugging/theft/crime/dangerous place
- Hassle
- People being reluctant to answer questions/won't answer truthfully/may lie/rude/embarra
- to give correct answer
- Getting lost/difficult to get to/poor transport links
- Not finding enough people to make the survey accurate
- Language difficulties for people to understand the survey
- Polluted water/air/rubbish/unhygienic conditions/student illness/disease
- Busy streets make it difficult to interview people

3 @ 1

[3]

[Total: 30 marks]