**Essential Skills**

**Application of Number**

**Level 2**

**Guidance notes for Application of Number Mark Scheme - Sample Assessment Material Level 2**

This mark scheme is provided as a guide for teachers/tutors and candidates to identify the requirements of the assessment. It shows the basis on which marks will be awarded by the Awarding Body.

* The mark scheme must be applied consistently across all papers
* Candidates must be credited with marks for what they have shown they can do rather than penalised for errors.
* Candidates may provide other alternative but acceptable methods for answering questions to those given in the mark scheme. This will be denoted as oa.
* Follow-through marks should be awarded where a subsequent correct process uses a previous incorrect answer.
* Transcription errors will not be penalised where the candidate clearly demonstrates a correct answer in working but incorrectly transcribes this to the answer line.

Acceptable follow through responses will identified with speech marks e.g. ‘0.34’

* Where units are not specified on the answer line, candidates should provide units for the answer. Normal conventions will be expected e.g. £3.5 should be given as £3.50 or 350p.

**Total marks available: 50**

MARK SCHEME

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| Question | Available marks | Mark Allocation | Answers |
| 1a | 6 | 6  (or)  1 for multiplying £98 by 14  1 for 15% discount of  1 for discounted price for Loire  1 for discounted price for Dordogne  1 for exchange to pounds  1 for calculating difference AND clear justification | Loire site is cheaper by £69.80  (or)  98x14=£1372  15% x £1372 = £205.80  £1372-£205.80 = £1166.20  1.5x €1030 = €1545  0.8 x €1545 = £1236  £1236-£1166.20 = £69.80 |
| 1b | 4 | 4  (or)  Mean:  1 for sum of Loire data  1 for correct division by 20  Range:  1 for correct answer  1 for clear explanation using their values | Dordogne better site.  Loire: mean = 8.05, range = 6  Dordogne similar mean ratings but preferable site as less erratic oa  (or)  161  161/20 = 8.05 or correct answer using their sum  10-4 = 6  suitable explanation |

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| 1c | 2 | 2  (or)  1 for percentage calculation  1 for correct subtraction AND appropriate response | No AND –£11.70 Negative sign and currency must be shown  (or)  30% of £125 = £37.50 and 37.50 + 359.20 = 396.70 or correct sum using their % value  385 – 396.70 = -£11.70 or correct balance using their values and appropriate response using their balance |
| 1d | 3 | 3  (or)  1 for correct arrival time at Dover  1 for correct sum of their times taken from schedule  1 for correct departure time using their values | 06:35 (must be 24 hour time)  (or)  14:25-1h=13:25  5 h15m + 25m + 25m + 45m = 6h50m oa  13:25 – 6h 50m = 06:35 oa and suitable response |
| 1e | 5 | 5 for correctly drawn bar chart and suitable justification  (or)  1  2  2 | Comparative bar chart with bars grouped by year.  Suitable linear scale, key, each axis correctly labelled, title and correct plotting AND ‘Dordogne less rain as demonstrated by bars’ oa  (or)  Suitable linear scale, key, each axis correctly labelled and title  Correct plotting using their scale  Suitable interpretation and justification |

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| 1f | 4 | 4  (or)  1 for correct calculation using approximation rule  2 for correct use of formula using their values  1 for correctly rounded answer using their values and comparison of ‘rough’ and accurate values as well as suitable response according to their result | Yes rule works well (oa) AND 20°C using approximation rule and 21°C using formula  (or)  (70 – 30) / 2 = 20(°C) oa  5(70-32)/9 = (5 x 38)/9 = 190/9 = 21.11 **oa**  21.11 = 21(°C) TNU  21-20 =1(°C) |
| 1g | 1 | 1 for suitable check | Calculation check by estimation, reverse operation oa |
| 2a | 5 | 5  (or)  1 for correctly calculating scale of plot  1 for correctly calculating scale of raised bed  1 for correctly calculating width of path  1 for drawing 3 beds within plot using their scale  1 for drawing min 1m path around each bed using their scale | Correct use of given scale to accurately draw plot and 3 beds with min of 1m path surrounding each bed  (or)  8mx6m is 16cmx12cm on plan  3mx1.5m is 6cmx3cm on plan  1m is 2cm on plan  3 beds within plot drawn  Beds with min 1m surround |

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| 2b | 5 | 5  (or)  1 for correct conversion of units and calculation of depth of soil  1 for volume calculation for 1 bed using their value  1 for multiplying volume of soil to find total amount needed using their values  1 for conversion of their value from metres to litres  1 for calculation of sufficiency and justification | 11x1000 litre bags needed including some calculations  (or)  85cm = 0.85m  0.85-0.10 = 0.75m or 85-10 = 75cm (correct units must be stated)  3x1.5x0.75 = 3.375(m3 ) OR 300x150x75 = 3375000cm3 = 3.375m3  3.375x3 = 10.125 (m3)  10.125(m3)x 1000 = 10125 litres  Therefore 11x1000 litre bags needed |
| 2c | 1 | 1 | 1 for suitable calculation check |
| 2d | 4 | 4  (or)  1 for conversion of units  1 calculation of 30cm spaces on length and width using their values or oa leading to correct solution  1 for calculating number of plants on width and on length using their values  1 for total number of plants and packs needed using their values | 6 packs needed  (or)  3m = 300cm and 1.5m = 150cm or 30cm = 0.3m (correct units must be stated)  300(cm)/30(cm) = 10 spaces on length, 150(cm)/30(cm) = 5 spaces on width  9 plants on length and 4 plants on width OR evidence of sketch leading to a solution oa  9 per length x 4 per width = 36 plants and 36/6 = 6 packs |

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| 2e | 3 | 3  (or)  1  1  1 for justification | 3 for Sunny Garden Centre and justification  (or)  1 for 5x£1.80=£9  4 lots of 5 plants on offer £2x4=£8  Sunny is £1 cheaper than Bobbies |
| 2f | 3 | 3  (or)  1  1 for simplifying fraction using their values  1 for correct alternative (ratio not acceptable) | 2 of 1/20, 0.05, 5%  (or)  total tally = 80  4/80 or their total as denominator  4/80 = 1/20  0.05 or 5% or correct values using their values |
| 2g | 4 | 4  (or)  1 for correct conversion  1 for calculating 1 part  1 for calculating 2 parts using their values  1 for number of bags using their values and for total cost of 2 bags in pounds using their value | 2 bags required costing £1.36  (or)  2.7kg = 2700g  2700/3 = 900g OR 2.7/3 = 0.9kg  900gx2 = 1800g OR 0.9x2 = 1.8kg  1800g or 1.8kg requires 2 bags  2x68p=136p=£1.36 |