****

**Essential Skills**

**Application of Number**

**Level 2 – The Cafe**

**Guidance notes for Application of Number Mark Scheme - 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**

|  |  |  |  |
| --- | --- | --- | --- |
| Question | Available marks | Mark Allocation | Answers |
| 1a(i) | 2 | 2 for correct average (mean) rate of pay  (or)  1 for sum of data  1 for correct division of their value by 8 | £6.85  (or)  £54.80  54.80/8=£6.85 |
| 1a(ii) | 3 | 1 for new sum after inclusion of £8.92  1 for correct division by 9 using their values  1 for calculating difference between two averages and suitable comment | 54.80+8.92=£63.72  63.72/9=£7.08  7.08-6.85=£0.23 **or** correct answer using their averages **AND** ‘mean average after inclusion of supervisor pay is increased by £0.23’ **oa** suitable explanation using their mean average results |
| 1b | 4 | 4 for correct payment value  (or)  1 for correct multiplication of hours by pay rates  1 for sum of their values  1 for difference of their values  1 for percentage calculation using their values | £4.32  (or)  36x8.92=£321.12 and 9x10.32=£92.88  321.12+92.88=£414  414-366=£48  9% of 48=£4.32 |

|  |  |  |  |
| --- | --- | --- | --- |
| 1c  1c cont’d  1c cont’d | 7 | 7 for correct response and suitable justification  (or)  1 for accurate measurements of those dimensions necessary for area calculations  1 for scaling up measurements necessary for subsequent calculations  1 for converting necessary measurements to metres  1 for correct calculation of complete rectangle  1 for correct calculation of ‘cut out’ square  1 for correct calculation of floor area using their values  1 for correct response and suitable justification  **OR**  1 for correct calculation of area A  1 for correct calculation of Area B  1 for correct calculation of total area using their values  1 for correct response and suitable justification  **OR**  1 for accurate measurements  3 for calculation of floor area in cm (broken down as above)  2 for **correctly** scaling up  1 for correct calculation of total amount of paint required and suitable comment using their values | ‘Insufficient paint’ AND 20.5m2 coverage required but tin only covers 18m2  (or)    3  1 for any used of:  +/- 1mm  Dimensions given in cm. mm equivalent acceptable  2  2  9  5  7  9cmx50=450cm=4.5m, 5cmx50=250cm=2.5m, 2cmx50=100cm=1m, 7cmx50=350cm=3.5m, 3x50=150cm=1.5m  Complete rectangle area=4.5mx2.5m=11.25m2    1x1=1m2  Area of floor =11.25-1=10.25m2  2 coats=10.25x2=20.5m2 **AND** insufficient paint in tin **OR** suitable commentusing their values  **OR**    A  Divide shape into 2 rectangles  B  Area A=1.5x1=1.5m2  Area B=3.5x2.5=8.75m2  Area A + Area B=1.5+8.75=10.25m2  **oa** using their measurements and calculated values  2 coats=10.25x2=20.5m2 **AND** insufficient paint in tin **OR** suitable commentusing their values  **OR**  102500cm2  10.25m2  1 for 2 coats=10.25x2=20.5m2 **AND** insufficient paint in tin **OR** suitable comment using their values |

|  |  |  |  |
| --- | --- | --- | --- |
| 1d | 5 | 5 for correct answer  (or)  1 for percentage calculation  1 for maximum scone diameter using their value  1 for correct calculation of number of scones on width  1 for correct calculation of number of scones on length  1 for correct calculation of max number of scones possible using their values | 12 scones per tray  (or)  1 for 20% of 8=1.6cm  1 for 8+1.6=9.6cm  35cm/9.6=3.6(1dp **oa**) so 3 scones on width  40cm/9.6=4.17(2dp **oa**) so 4 scones on length  1 for 4x3=12 scones per tray |
| 1e | 4 | 4 for correct answer  (or)  1 for total number of parts  1 for calculating 1 part  1 for correct calculation of number of coffees and teas sold using their values  1 for correct calculation of total income from coffees and teas using their values | £3440  (or)  7+3=10 parts  1600/10=160  No. of coffees=7x160=1120  No. of teas sold=3x160=480  Coffees: £2.30x1120=£2576  Teas: £1.80x480=£864  2576+864=£3440 |

|  |  |  |  |
| --- | --- | --- | --- |
| 2a | 3 | 3 for correct answer  (or)  1 for total of tally  1 for division of number of green sweets by their total  1 for conversion to percentage using their values | 32%  (or)  75  Probability of green sweet=24/75 or 0.32  0.32x100=32% **oa** |
| 2b | 6 | 6 for Yes AND justification  (or)  1 for depth of mixture  1 for radius  1 for substitution into formula using their values  1 for correct answer using their values  1 for conversion of their value to litres  1 for suitable comment | Yes AND 2 litres enough. Only 1.57 litres of cake mix needed for 1 tin **(or** 1.571 litres if pi button used) **oa**  (or)  9-4=5cm  20/2=10cm  3.14x10x10x5 (**oa** if pi button used)  1570cm3 **or** 1571cm3 (TNU) if pi button used  1570cm3 **or** 1571cm3 =1570ml **or** 1571ml =  1.57 litres **or** 1.571 litres  Yes AND 2 litres enough. Only 1.57/1.571 litres of cake mix required for 1 tin **oa** |
| 2c | 2 | 2 for shortest route  (or)  1 for an alternative suitable route with total distance correctly calculated | 25 miles  (or) |
| 2d | 6 | 6 for No AND correct justification  (or)  1 mark for correct distance  1 for substitution into formula  1 for correct calculation using their distance  1 for correct sum of times using their values  1 for correct calculation of latest departure time using their values  **OR**  1 for correct calculation of home arrival time using their values  1 for No AND correct justification | No AND needs to leave home at 8.45am at latest in order to be back by 10.20am **OR** Leaving home at 9am will result in returning at 10.35am **OR** will be 15mins late returning home (24 hour clock times accepted)  (or)  17 miles  t=17/34  0.5 hours or 30mins or 1/2hour  20mins+(15minsx3) +30mins  =20mins+45mins+30mins=95mins **oa**  10.20-95mins=8.45am / 08.35 departure time  **OR**  9am+95mins=10.35am /10.35 home arrival time  No AND needs to leave home at 8.45am at latest in order to be back by 10.20am **OR** Leaving home at 9am will result in returning at 10.35am **OR** will be 15mins late returning home (24 hour clock times accepted) |
| 2e | 1 | 1 for suitable check |  |
| 2f | 2 | No AND correct justification  (or)  1 for recognition of their value as being warmer or cooler than -18°C and appropriate response | No, should not accept delivery AND new temp will be  -16.2°C which is higher than -18°C safe temp for frozen food **oa** |
| 2g | 1 | 1 for correct reading | £6000 |
| 2h(i) | 2 | 2 for correct answer  or  1 for correct subtraction of deposit from cost  1 for correct percentage of their value | £540  or  18300 – 7500 = £10800  5% of 10800 = £540 |
| 2h(ii) | 2 | 2 for correct monthly payments AND suitable response  (or)  1 for correct addition of balance and interest using their value from 2h(i)  1 for correct division of their value by 12 AND correct response | Payments will be £945 p.m. AND Yes, Tony can afford to buy the van.  10800 + 540 = 11340  11340/12 = £945 per month AND Yes, Tony can afford to buy the van. |