

Level 1 Functional Skills Mathematics
Sample
4748-119/219

Mark scheme
March 2021

Level 1
SAMPLE

SAMPLE
4

Guidance notes for Mark Schemes

Level 1 and Level 2

Notes for marking open response Problem Solving questions in Section 2:

The mark scheme has been carefully constructed to avoid penalising candidates repeatedly for similar errors.

1) The principle of follow through applies throughout unless otherwise stated. This allows the candidates to gain credit for subsequent correct calculation based on a previous incorrect answer. There is no follow-through between questions, but may be in multi-stage calculations within a question.

2) Units or numbers shown in brackets on the mark scheme are not required for the awarding of mark/s on the candidate's paper. However, if a candidate states units they must be correct:

eg 24(cm) means accept 24cm or 24 but not 24m

eg (£)72.5(0) means accept £72.50 or £72.5 or 72.50 or 72.5

3) Correct money format is expected in final answers unless otherwise indicated eg by brackets ie pounds must have two decimal places or no decimal places unless otherwise stated.

eg (£)5.00 or (£)5 not (£)5.0

eg (£)72.50 not (£)72.5

eg (£)37.43 not (£)37.432

4) URT means unrounded, rounded or truncated; the underlining defines the acceptable limit of approximation:

eg 860. 8652 URT (U is the unrounded version)

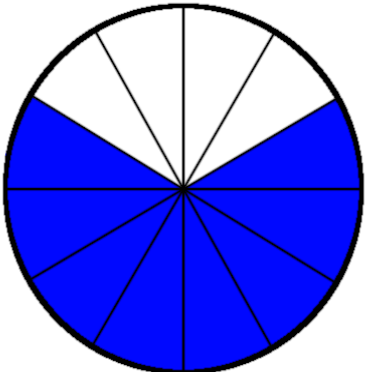
the following are acceptable: 860 (T) or 861 (R) 860.8 (T) or 860.9 (R) or 860.86 (T) or 860.87 (R) or 860.865 (R) or 860.8652 (U) but not eg 900.

The 3rd and 4th columns of the mark schemes show the marks to be given for specific responses. Marks in bold are for fully correct answers. Where full marks are not achieved, examiners will award the marks that correspond to the responses given in the grey rows below. Any unforeseen but creditable responses are noted during the early stage of marking and are considered and, where appropriate, added to the mark scheme by the Chief Examiner when the mark scheme is finalised.

Where the marks are awarded for a *complete correct method with one calculation error*, examiners give the mark for a substantially correct solution with a single accuracy error or single (or consistent) early rounding, but not with a method error.

Maths Level 1 Sample 4: Section 1 – CALCULATOR NOT PERMITTED

Candidates must not lose marks for incorrect spelling.

| Question | Total marks | Marks | Marks awarded for | Item type | Subject content ref |
|----------------------------|-------------|-------|---|---|---------------------|
| 1 | 1 | 1 | 35 | UPK Short answer fixed response | SCS7 [1] |
| 2 | 1 | 1 | 40(%) | UPK Short answer fixed response | SCS16 [1] |
| 3 | 1 | 1 | 8.36 | UPK Short answer fixed response | SCS12 [1] |
| 4 | 1 | 1 | 1000 | UPK Short answer fixed response | SCS3 [1] |
| 5 | 1 | 1 | 125(cm ³) | UPK Short answer fixed response | SCS23 [1] |
| 6 | 1 | 1 | 8 sectors of the circle shaded with at least one line of symmetry eg  | UPK Short answer fixed response | SCS24 [1] |
| 7 | 1 | 1 | C | UPK MC fixed response | SCS8 [1] |
| 8 | 1 | 1 | 28 | UPK Short answer fixed response | SCS4 [1] |
| 9 | 1 | 1 | D | UPK MC fixed response | SCS25 [1] |
| 10 | 1 | 1 | 205 030 | UPK Short answer fixed response | SCS1 [1] |
| 11 | 2 | 2 | 3.5 | Problem solving Short answer fixed response | SCS29 [2] |
| | | 1 | 28 for total seen or ÷ 8 seen | | |
| 12 | 3 | 3 | 7.2(kg) | Problem solving Short answer fixed response | SCS17 [3] |
| | | 2 | 7200(g) | | |
| | | 1 | 720(g) grams for one loaf or correct use of proportion eg $\times 1.5$ seen or complete correct method with one calculation or rounding error | | |
| Total for Section 1 | | | | | 15 marks |

Maths Level 1 Sample 4: Section 2 – CALCULATOR PERMITTED

Candidates must not lose marks for incorrect spelling.

NB incorrect money format given as an answer should only be penalised **once** on the whole paper and will lose 1 mark. Do not penalise any subsequent incorrect format.

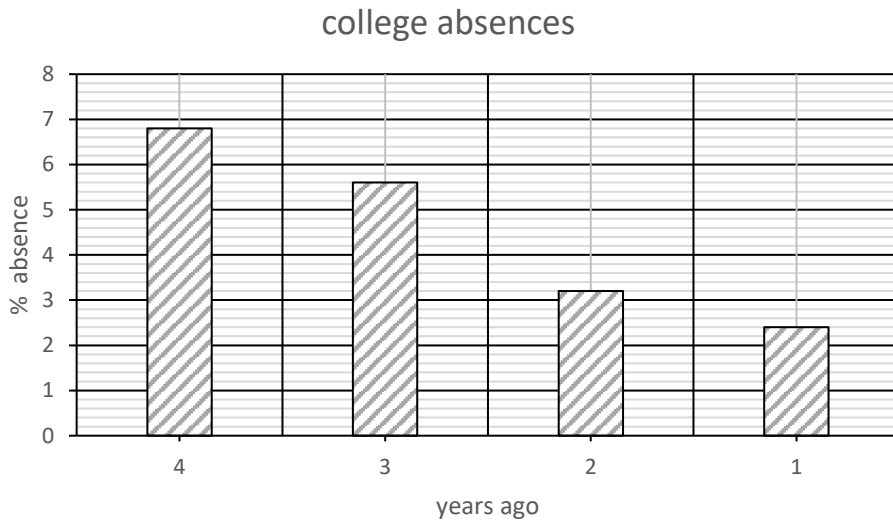
| Question | Total marks | Marks | Marks awarded for | Item type | Subject content ref |
|----------|-------------|-------|--|--|----------------------|
| 1 | 1 | 1 | $\frac{7}{20}$ | UPK Short answer fixed response | SCS16 [1] |
| 2 | 1 | 1 | $C(\frac{3}{4}$ full) | UPK MC fixed response | SCS15 [1] |
| 3 | 1 | 1 | D (-2°C and 6°C) | UPK MC fixed response | SCS29 [1] |
| 4 | 1 | 1 | 20 009.6 | UPK Short answer fixed response | SCS11 [1] |
| 5 | 1 | 1 | 552 | UPK Short answer fixed response | SCS9 [1] |
| 6 | 1 | 1 | no and valid explanation with reference to 140 miles eg 140 miles is too far to travel in 1 hour note: no calculation is expected | Problem solving Short answer open response | Check [1] (SCS20) |
| 7 | 2 | 3 | (£)86.25 | Problem solving Short answer open response | SCS14 [3] |
| | | 2 | (£)2070 for total to pay seen or complete correct method with one calculation or rounding error | | |
| | | 1 | method for finding 15% seen eg x 1.15 seen or ÷24 seen | | |
| 8 | 3 | 3 | 1.775(m ²) | Problem solving Short answer open response | SCS22 [3] |
| | | 2 | 1.3(m ²) and 0.475(m ²) or 0.8(m ²) and 0.975(m ²) or 2.535(m ²) and 0.76(m ²) or complete correct method with one calculation or rounding error | | |
| | | 1 | 1.3(m ²) or 0.475(m ²) or 0.8(m ²) or 0.975(m ²) or 0.2535(m ²) or 0.76(m ²) or 1(m) or 0.8(m) for unlabelled dimensions | | |

| 9 | 3 | 3 | $\frac{2}{5}$ | Problem solving Short answer open response | SCS30 [1] SCS31 [2] | | | | | | | | |
|----|---|----------------------|--|--|------------------------|----------------|-----------------|----------------------|---|---|---|--|-----------|
| | | 2 | $\frac{6}{15}$ or 6 out of 15 seen or complete correct method with one calculation or rounding error | | | | | | | | | | |
| | | 1 | 6 and 24 seen or 15 seen for number of cards left or 9 seen for the tally total | | | | | | | | | | |
| 10 | 4 | 3 | <p>correct grouping of times with 3 equal group boundaries and correct totals or actual numbers for each group</p> <p>eg</p> <table border="1"> <thead> <tr> <th>Time Length</th> <th>0 – 5 minutes</th> <th>6 – 10 minutes</th> <th>11 - 15 minutes</th> </tr> </thead> <tbody> <tr> <td>Number in each group</td> <td>8</td> <td>4</td> <td>6</td> </tr> </tbody> </table> <p>eg</p> <p>0 – 5 minutes 8 5 – 10 minutes 4 11 – 15 minutes 6</p> | Time Length | 0 – 5 minutes | 6 – 10 minutes | 11 - 15 minutes | Number in each group | 8 | 4 | 6 | Problem solving Short answer open response | SCS28 [4] |
| | | Time Length | 0 – 5 minutes | 6 – 10 minutes | 11 - 15 minutes | | | | | | | | |
| | | Number in each group | 8 | 4 | 6 | | | | | | | | |
| | | 2 | all 18 times listed with correct grouping without boundaries stated or correct grouping of all 18 times, but unequal group boundaries or correct grouping of all 18 times with overlapping boundaries | | | | | | | | | | |
| 1 | some attempt to group times seen | | | | | | | | | | | | |
| 1 | valid comment based on their grouped data eg there are more videos in the 0 – 5 minutes group eg there are fewest videos in the 5 – 10 minutes group | | | | | | | | | | | | |

| | | | | | |
|----|---|---|---|--|------------------------------------|
| 11 | 4 | 1 | 2(km) or 2000(m) seen for drone battery life | | SCS9 [1] SCS20 [1] SCS21 [2] |
| | | 2 | 2.4(km) or 2400(m) seen for travel | | |
| | | 1 | 24 squares counted | | |
| | | 1 | correct decision and valid explanation for their distance and their battery life eg no because 2.4km > 2km | | |
| 12 | 5 | 3 | 9699.354(litres) | Problem solving Short answer open response | SCS5 [2] SCS6 [1] SCS17 [2] |
| | | 2 | 13.85622 seen for step 1 or 0.9699354 seen for step 2 or complete correct method with one calculation or rounding error | | |
| | | 1 | 4.41 for r^2 or x 3.142 in step 1 or x 0.7 in step 2 or x 1000 in step 3 | | |
| | | 2 | decision consistent with their volume eg yes, 10 000 (litres in 5 hours) > 9 699 (litres) eg yes, (9699 ÷ 5 =) 1939(litres) < 2000(litres) | | |
| | | 1 | their volume ÷ 5 (for number of litres per hour) or 10000(litres) seen for litres cleaned by machine in 5 hours | | |
| | | | | | |
| 13 | 5 | 5 | 15:30 (time to leave home) | Problem solving Short answer open response | SCS17 [1] SCS 20 [4] |
| | | <i>If 5 marks not awarded follow the 3 - part mark scheme</i> | | | |
| | | 1 | 17:15 (for arrival at check in) | | |
| | | 1 | 17:00 (for arrival at car park) | | |
| | | 3 | correct time for leaving home consistent with time for arrival at car park / check in eg 15:30 (from 1hr 30 mins + 15:30 = 17:00) | | |
| | | 2 | 1 hour 30 minutes (for journey time from home to car park) | | |
| | | 1 | method for finding journey time eg $90 \div 60 = 1.5$ hours (1 hour 30 minutes) | | |

| | | | | | |
|----------------------------|---|---|--|--|---|
| 14 | 6 | 5 | marks given here for acceptable methods based on yearly or monthly costs (£)275.88 (total cost of joining plus the 50% health check) AND (£)300 (total cost of benefits without joining) for a year OR (£)22.99 for total cost of joining plus the 50% health check per month AND (£)25 for total cost of benefits without joining for a month from (£)60 ÷ 12 = (£)5 (£)42 ÷ 3 = (£)14 (£)36 ÷ 6 = (£)6 | Problem solving Short answer open response | SCS2 [1] SCS11 [1] SCS19 [1] SCS20 [3] |
| | | 4 | (£)275.88 or (£)300 per year or (£)22.99 or (£)25 per month | | |
| | | 3 | (£)239.88 for annual subscription and (£)36 for reduced annual health check or (£)19.99 for monthly subscription and (£)3 for reduced monthly health check | | |
| | | 2 | (£)239.88 for annual subscription or (£)36 for reduced annual health check or (£)3 for reduced monthly health check or (£)60 and (£)168 and (£)72 | | |
| | | 1 | ÷ 12 (for monthly portion of annual injection) or x 12 (for annual subscription) or x 4 (for annual flea & worm treatment) or ÷ 3 (for monthly flea & worm treatment) or x 2 (for annual health check) or ÷ 6 (for monthly health check) or method for finding 50% | | |
| | | 1 | decision consistent with their results AND explanation including figure(s) eg yes and (£)24.12 cheaper eg yes and (£)275.88 < (£)300 | | |
| 15 | 6 | 2 | 2.4(%) | Problem solving Short answer open response | SCS14 [2] SCS27 [4] |
| | | 1 | 0.024 seen or 948 ÷ 39500 | | |
| | | 1 | bar chart with 4 bars for percentage absences AND suitable axis labels or line graph showing one line and 4 plots for percentage absences AND suitable axis labels in correct orientation (ie percentage on vertical scale) <i>note suitable title may be used to substitute or clarify axis label</i> | | |
| | | 1 | bar chart: suitable continuous scale starting at (implied) zero and going to at least 6.8 line graph: suitable continuous scales on both axes and going to at least 6.8 <i>note line graph doesn't have to start at zero</i> | | |
| | | 2 | bar chart: all 4 bar heights correct ± ½ small square line graph: all 4 points plotted correctly ± ½ small square | | |
| | | 1 | bar chart: one bar height correct line graph: one point plotted correctly | | |
| Total for Section 2 | | | | | 45 marks |

Example chart S2Q15



Example graph S2Q15

