National Numeracy Tests

PROCEDURAL

9EP18MS

Markscheme

165132

Llywodraeth Cymru
Welsh Government

Markscheme

General marking rules

It is essential that you apply this markscheme, the marking guidance and the general marking rules given below to your own marking, in order for the standardised scores to be valid.

- Incorrect or unacceptable answers are given a mark of 0. No half marks are awarded.
- At the end of each double-page spread of marking, record the total number of marks in the 'total' box in the bottom right-hand corner. Check that the mark recorded does not exceed the maximum number of marks available.
- Once the marking has been completed, add up the total number of marks awarded. This is the total score and should be recorded on the cover of the test booklet and input onto the relevant mark sheet on the school's management information system, together with the details and date of the test taken.
- This data should then be submitted as part of the Welsh National Tests Data Collection (WNTDC). Further details are available from the *National Reading and Numeracy Tests – Test administration handbook 2018* on the Learning Wales website and in *Welsh National Tests Data Collection and reporting arrangements 2017/18* available on the Welsh Government website.
- Markers should record their initials on the cover of the test booklet to assist quality assurance.

Marking the modified tests

For learners using the modified large print or Braille test materials, some questions have been adapted or replaced. When marking a modified large print or Braille test, please use this markscheme alongside the adapted markscheme which is included in the *Notes for teachers* that accompany the modified tests.

Marking guidance

It is important that the tests are marked accurately. The questions and answers below help to develop a common understanding of how to mark fairly and consistently.

Must learners use the answer boxes?

Provided there is no ambiguity, learners can respond anywhere on the page. If there is more than one answer, the one in the answer box must be marked, even if incorrect. However, if the incorrect answer is clearly because of a transcription error (e.g. 65 has been copied as 56), mark the answer shown in the working.

Does it matter if the learner writes the answer differently from that shown in the markscheme?

Numerically equivalent answers (e.g. eight for 8, or two-quarters or 0.5 for half) should be marked as correct unless the markscheme states otherwise.

How should I mark answers involving money?

Money can be shown in pounds or pence, but a missing zero, e.g. £4.7, should be marked as incorrect unless the markscheme states otherwise.

How should I mark answers involving time?

In the real world, specific times are shown in a multiplicity of ways so accept, for example, 02:30, 2.30, half past 2, etc. Do not accept 2.3 as this is ambiguous. The same principle should be used for marking time intervals, e.g. for two and a half hours accept 2.5 but not 2.5pm.

What if the method is wrong but the answer is correct?

Unless the markscheme states otherwise, correct responses should be marked as correct even if the working is incorrect as learners may have started again without showing their revised approach.

What if the learner has shown understanding but has misread information in the question?

For a two (or more) mark item, if an incorrect answer arises from misreading information given in the question and the question has not become easier as a result, then deduct one mark only. For example, if the two-mark question is 86×67 and the learner records 96×67 then gives the answer 6432, one mark should be given. In a one-mark question, no marks can be given.

What should I do about crossed-out work?

Working which has been crossed out and not replaced can be marked if it is still legible.

What is the difference between a numerical error and a conceptual error?

A numerical error is one in which a slip is made, e.g. within 86×67 the learner works out $6 \times 7 = 54$ within an otherwise correct response. A conceptual error is a more serious misunderstanding for which no method marks are available, e.g. if 86×60 is recorded as 516 rather than 5160

What if learners use a method that is not shown within the markscheme?

There can be a wide range of approaches to a question (e.g. long multiplication) and any correct method, however idiosyncratic, is acceptable.

In one-mark questions, the mark should be given for the correct answer, whatever the method used.

In two-mark questions, the correct answer should be given two marks, whatever the method used, unless the markscheme states otherwise. Most two-mark questions give one mark if the answer is incorrect but the learner shows a correct method: a correct method is one that would lead to a correct answer if there were no numerical errors.

9EP18 Procedural test: Markscheme

Q	Marks	Answer	Comments
1	1m	300	
2	1m	£35.(00)	Do not accept £34.97
3	1m	65p	
4	1m	4 : 6	
5i	1m	500 dollars	
5ii	2m	£300 Or Their answer to 5i × 0.6	Example for 2m: From 200 dollars in 5i accept £120
	Or 1m	Answer has only digit 3 Or Shows the intent to multiply 500 (or their answer to 5i) by 0.6 or 6 or 60	Examples: 3, 3000

Q	Marks	Answer	Comments
6	1m	£400 more per person	Accept £390 to £410 inclusive
7	1m	$2\frac{1}{2}$ kilometres or equivalent	Examples 2.5, $2\frac{2}{4}$, $\frac{10}{4}$
8i	1m	6.76	
8ii	1m	13.0 only	Do not accept 13, 13.00 etc.
9	2m	£186(.00) more	
	Or 1m	Answer has only digits 186 Or Shows 12 × [20.5(0) – 5(.00)] Or Shows 20.5(0) × 12 – 5(.00) × 12 Or Answer £133.20 Or Answer £52.80	Examples: £1860, £18.60 Has compared ages 40 and 50 Has compared ages 30 and 40

Q	Marks	Answer	Comments
10	1m	3^2 2^4 5^2 3^3	Accept any unambiguous indication, e.g. 9, 16, 25, 27, but must be correct
11i	1m	10 minutes	
11ii	1m	6 kilometres Or 60 ÷ their answer to 11i (but not if 1 or 0)	Example for 1m: From 15 minutes in 11i accept 4 kilometres
12	2m	68 kg and 56 kg, in either order	Both correct for 2m
	Or 1m	One correct Or Shows both 12 and 24	
13i	1m	20%	
13ii	1m	8	

<table>
<tr><th>Q</th><th>Marks</th><th>Answer</th><th>Comments</th></tr>
<tr><td>14i</td><td>1m</td><td>0.615</td><td>Accept equivalent fractions and decimals but not $0.61\frac{1}{2}$</td></tr>
<tr><td>14ii</td><td>1m</td><td>15</td><td></td></tr>
<tr><td>15i</td><td>1m</td><td>10^2 or 100</td><td></td></tr>
<tr><td>15ii</td><td>1m</td><td>19600</td><td></td></tr>
<tr><td>16</td><td>2m</td><td>All three correct
<table><tr><th></th><th>Frequency</th><th>Angle</th></tr><tr><td>Number of children</td><td>30</td><td>180°</td></tr><tr><td>Number of adults (not staff)</td><td>20</td><td>120°</td></tr><tr><td>Number of staff</td><td>10</td><td>60°</td></tr></table></td><td></td></tr>
<tr><td></td><td>Or 1m</td><td>Any two correct
Or
180° correct and the two other angles sum to 180°</td><td></td></tr>
<tr><td>17</td><td>1m</td><td>30%</td><td>Do not accept equivalent fractions or decimals</td></tr>
<tr><td>18i</td><td>1m</td><td>£30</td><td></td></tr>
<tr><td>18ii</td><td>1m</td><td>£8</td><td></td></tr>
<tr><td>19</td><td>2m</td><td>$3\frac{7}{15}$</td><td>Accept equivalent fractions</td></tr>
<tr><td></td><td>Or 1m</td><td>Shows $\frac{7}{15}$ or equivalent fraction
Or
Shows one or more of:
$\frac{10}{15}, \frac{3}{15}, \frac{115}{15}, \frac{63}{15}$</td><td>Accept equivalent fractions provided the denominator is a multiple of 15, e.g. accept $\frac{20}{30}$ but do not accept $\frac{4}{6}$</td></tr>
</table>

Q	Marks	Answer	Comments
20	1m	$\frac{7}{4}$ or any equivalent improper fraction	Do not accept $1\frac{3}{4}$ Do not accept equivalent decimals
21	2m	$157cm^2$	
	Or 1m	Answer 314 with 3.14×10^2 or equivalent seen Or Incorrect answer, but shows a method that would lead to $157cm^2$ if calculated correctly, with not more than one numerical error	Accept π for 3.14 Example of a correct method: $3.14 \times 10 \times 10 = 3140$ (error), $3140 \div 2 = 1570$, Answer $1570cm^2$
22	2m	2.25 children per family or equivalent	Accept 2 children or 2.3 provided 2.25 or correct working is seen
	Or 1m	Answer 2.2 Or Shows 180 (or $14 + 80 + 54 + 32$) Or Incorrect answer, but shows a method that would lead to 2.25 if calculated correctly, with not more than one numerical error	Example of a correct method: $14 + 2 \times 40 + 3 \times 18 + 4 \times 8$ $= 190$ (error), $190 \div 80 = 2\frac{3}{8}$, Answer 2