CR_12331_051117150104

National Numeracy Tests

PROCEDURAL

8EP17

First name _____

Last name _____

School _____

Class _____

Date of birth ○○ ○○ ○○○○

Date of test ○○ ○○ 2017

Total score ○ (maximum 36)

150299

Llywodraeth Cymru
Welsh Government

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1 Work out the number of quarters in $1\frac{1}{2}$

quarters

1m

2 $150 - 3 \times 10 =$

1m

3

Play table tennis

Adults	£3.95 per person
Children	£1.90 per person

1 adult and 3 children want to play table tennis.

To the **nearest £**, how much does it cost?

£

1m

4 Divide 2.4 by 4

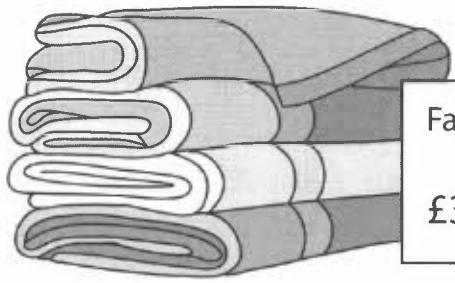
1m

5 $3 - 2.85 =$ ☐ 1m

$\sqrt{36} =$ ☐ 1m

$11 \times 0.9 - 9 \times 0.9 =$ ☐ 1m

6



Fabric

£3.70 per metre

Work out the exact cost of 4.5 metres of this fabric.

£ 2m

TOTAL 9m

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7 Write the number that is halfway between 0.7 and 0.8

1m

8 These girls are 4, 7 and 13 years old.

Work out their **mean** age.

years

1m

9 Write the numbers in order, smallest first.

$\frac{1}{5}$ 0.45 0.5 5%

smallest **largest**

1m

10 Convert 10 metres to centimetres.

centimetres

1m

11 Train in India:

- leaves Mumbai 23:15
- arrives Indore 11:20 the next day.

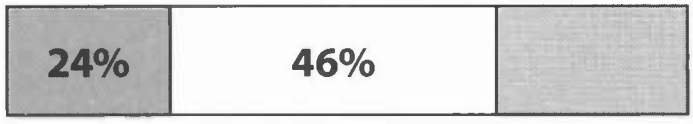
How long is the journey?

hours	minutes

1m

12 A school did two surveys to find out what pupils think about science.

Results at the beginning of Year 8 (100 pupils)



Results at the end of Year 8 (100 pupils)

Key

- dislike
- quite like
- like a lot

The number of pupils who **like science a lot** has increased.

By how many pupils has it increased?

pupils

2m

TOTAL

7m

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13 The cube root of 125 = ☐

1m

14 Add together $\frac{2}{8}$ and $\frac{4}{16}$

Write your answer in its simplest form.

☐

1m

15 20% of 125 = ☐

1m

$12\frac{1}{2}$% of 80 = ☐

1m

16 How many square centimetres are there in **one square metre**?

☐ square centimetres

1m

17 Multiply 3.4 by 2.3

2m

18 Year 8 voted for their class representative.

They could choose Pavel or Sam.

The votes for Pavel and Sam were in the ratio 3 : 2

What percentage of the votes did Pavel get?

%

1m

19 Round 6.819 to one significant figure.

1m

TOTAL

9m

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20 Work out $6^2 + 7 - (7^2 - 6)$

2m

21 Write the fraction in its simplest form.

$$\frac{64}{80} = \square$$

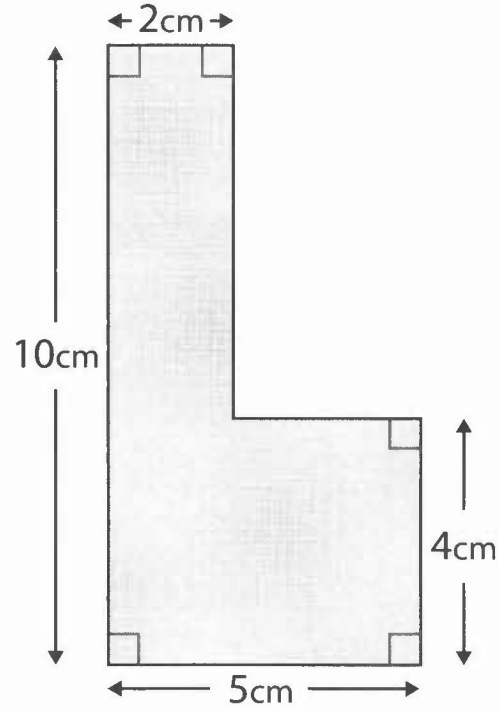
1m

22 Write the missing time.

Time in Alaska	Time the same day in Wales
6am	3pm
	11pm

1m

23 Work out the area of this shape.



cm²

2m

24 This phone was £50

but is now £45

That's a % reduction in price.

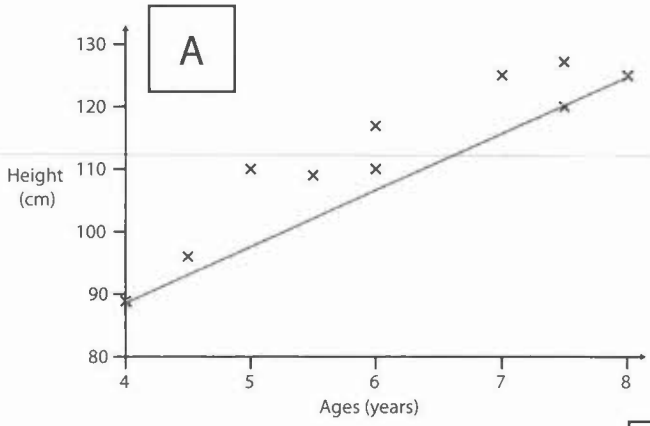
1m

TOTAL

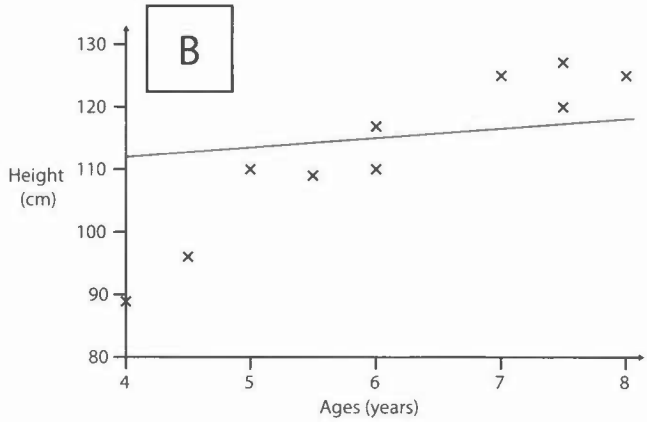
7m

25 Which scatter diagram shows the line of best fit?

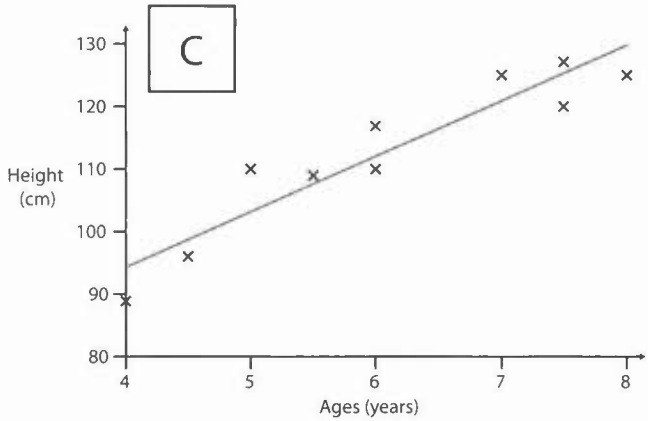
A



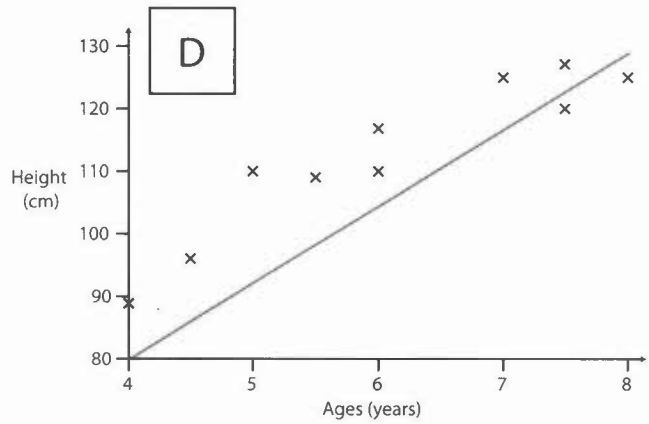
B



C



D



Choose A, B, C or D. [ ]

1m

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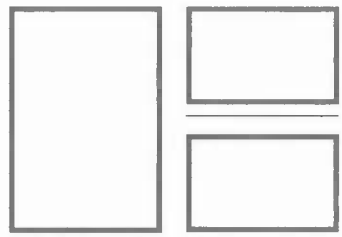
26 Lian and Jason race.

Lian's time is $\frac{3}{100}$ of a minute faster than Jason's.

How many seconds faster is that?

Write your answer as a mixed number in its simplest form.



seconds

2m

27 VAT is a tax that is paid on most goods.

Example:

Cost before VAT is added	£5
Cost after VAT at 20% is added	£6

Write the missing number:

Cost before VAT is added	£
Cost after VAT at 20% is added	£30

1m

TOTAL

4m

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CR_12331_051117150113

National Numeracy Tests

PROCEDURAL

8EP17MS

Markscheme

Llywodraeth Cymru
Welsh Government

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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 2017* on the Learning Wales website and in *Welsh National Tests Data Collection and reporting arrangements 2016/17* 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.

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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.

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8EP17 Procedural test: Markscheme

Q	Marks	Answer	Comments
1	1m	6 quarters	
2	1m	120	
3	1m	£10(.00)	Do not accept £9.65
4	1m	0.6 or equivalent	
5i	1m	0.15 or equivalent	
5ii	1m	6	Accept –6
5iii	1m	1.8 or equivalent	Do not accept 2×0.9 or $9.9 - 8.1$
6	2m	£16.65	
	Or 1m	Incorrect answer, but shows a method that would lead to 16.65 or 1665 if calculated correctly, with not more than one numerical error	Example of a correct method: $3.7 \times 4 = 14.8$ $3.7 \div 2 = 1.95$ (error) $14.8 + 1.95 = £16.75$
7	1m	0.75 or equivalent	Do not accept $0.7\frac{1}{2}$
8	1m	8 years	
9	1m	5% $\frac{1}{5}$ 0.45 0.5	
10	1m	1000 centimetres	
11	1m	12 hours (0)5 minutes	Do not accept 11 hours 65 minutes
12	2m	12 pupils	
	Or 1m	Incorrect answer, but shows a method that would lead to 12 if calculated correctly, with not more than one numerical error	Examples of a correct method: $100 - (24 + 46) = 20$ (error) $100 - (15 + 43) = 42$ $42 - 20 = 22$ $24 - 15 = 8$ (error) $46 - 43 = 3$ $8 + 3 = 11$

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Q	Marks	Answer	Comments
13	1m	5	Do not accept –5
14	1m	$\frac{1}{2}$	Accept 0.5, otherwise do not accept equivalent fractions or decimals
15i	1m	25	
15ii	1m	10	
16	1m	10 000 square centimetres	Do not accept 100^2
17	2m	7.82 or equivalent	
	Or 1m	Shows the digits 782 Or Incorrect answer, but shows a method that would lead to 7.82 if calculated correctly including the correct positioning of the decimal point, with not more than one numerical error	Examples for 1m: 78.2 or 0.7820 Example of a correct method: $34 \times 20 = 680$ $3 \times 34 = 92$ (error) $680 + 92 = 772$ Answer 7.72
18	1m	60%	Do not accept equivalent fractions or decimals
19	1m	7	Do not accept 7.0

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Q	Marks	Answer	Comments
20	2m	0	
	Or 1m	Shows 36 and 49	Accept –49
		Or Shows 43	Accept –43
21	1m	$\frac{4}{5}$	Accept 0.8, otherwise do not accept equivalent fractions or decimals
22	1m	2pm	Accept 14:00 but do not accept 2 or 2am
23	2m	$32cm^2$	
	Or 1m	Incorrect answer, but shows a method that would lead to $32cm^2$ if calculated correctly, with not more than one numerical error	Examples of correct methods: $2 \times 10 + 3 \times 4$ $2 \times 6 + 5 \times 4$ $10 \times 5 - 3 \times 6$
24	1m	10%	Do not accept equivalent fractions or decimals
25	1m	C	Accept any unambiguous indication, e.g. graph C ticked
26	2m	$1\frac{4}{5}$ seconds	For 2m, do not accept equivalent fractions or decimals
	Or 1m	Shows $\frac{9}{5}$ or a fraction or decimal equivalent to $\frac{9}{5}$	Examples for 1m: $\frac{180}{100}$ 1.8
27	1m	£25(.00)	

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