Mathematics Mark scheme

Test A

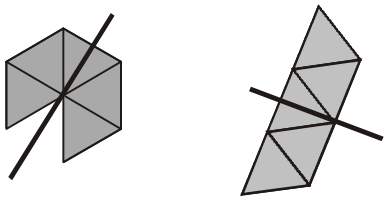
2006
0 min
0 marks

1. Numbers written in correct order as shown: 1

109	190	901	910	1091

[1]

2. One line of symmetry correctly positioned on each diagram as shown: 1

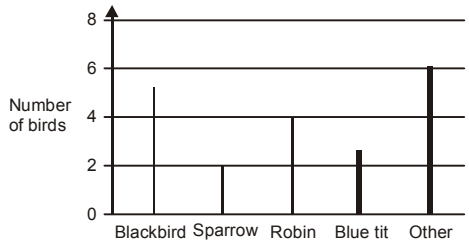


Accept slight inaccuracies in drawing provided the intention is clear.

The length of the line is unimportant provided the intention is clear.

[1]

3. (a) Graph completed as shown: 1



Accept bar for 'blue tit' in the range 2.5 to 3.5 exclusive.
Accept bar for 'other' within 2mm of correct length.

(b) $\frac{1}{4}$ 1

Accept equivalent fractions, eg $\frac{5}{20}$

*Do **not** accept 5*

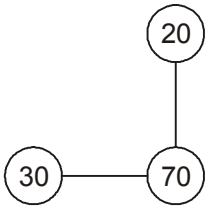
[2]

4. (a) 4 1

(b) 150 1

[2]

5. Diagram completed as shown 1



[1]

6. (a) 1 hour 20 minutes 1

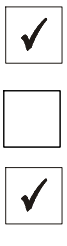
The answer is a time interval (see Guidance).

(b) 3:25 1

The answer is a specific time (see Guidance).

[2]

7. (a) Boxes ticked as shown: 1



U1

*Accept alternative unambiguous indications such as **Y** or **N**.*

(b) Boxes ticked as shown: 1

☑ U1

☑

☐

*Accept alternative unambiguous indications such as **Y** or **N**.*

[2]

8. (a) 451 1

(b) 110 1

[2]

9. Award **TWO** marks for the correct answer of 5 up to 2

If the answer is incorrect, award **ONE** mark for evidence of appropriate working, eg

$5 \times 25 = 125$

$12 \times 10 = 120$

$125 - 120 =$ wrong answer

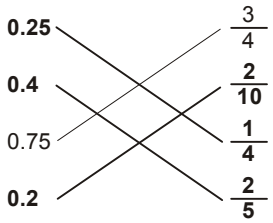
*Calculation must be performed for the award of **ONE** mark.*

[2]

10. 1717 1

[1]

11. All numbers matched correctly as shown: 1



*Do **not** award the mark if additional incorrect lines are drawn.*

Lines need not touch the numbers provided the intention is clear.

[1]

12. (a) 4 1

*Do **not** accept a list of days of the week.*

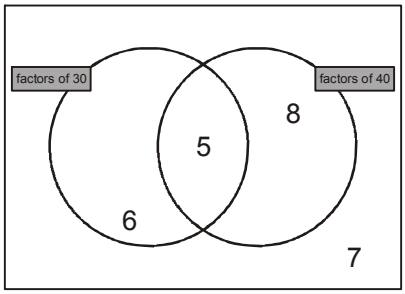
(b) Monday **AND** Thursday 1

Accept unambiguous abbreviations or recognisable misspellings.

Accept days written in either order.

[2]

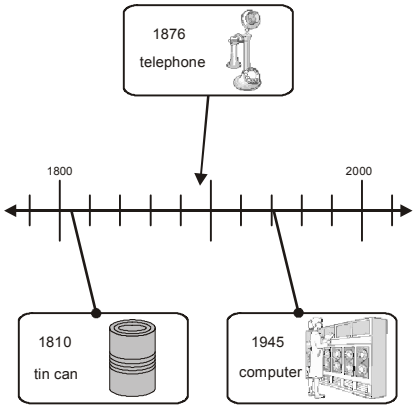
13. Award **TWO** marks for numbers written in the correct regions as shown: up to 2



If the answer is incorrect, award **ONE** mark for any three numbers written in the correct regions.

*Do **not** accept numbers written in more than one region.*

Accept alternative indications such as lines drawn from the numbers to the appropriate regions of the diagram.



Lines need not touch the time line provided the intended accuracy is clear.

[2]

14. (a) Answer for tin can joined to the time line in the range 1805 to 1815 exclusive. 1

(b) Answer for computer joined to the time line in the range 1940 to 1950 exclusive. 1

[2]

15. Two numbers circled as shown: 1

74	**72**	73	74	**75**

An explanation which recognises that 1003 is not a multiple of 3, eg: 1
U1

- 'Because 1003 is not divisible by 3'
- 'Because 1003 is not a multiple of 3'
- 'Because 1003 is not in the 3 times table'
- 'Because I divided 1003 by 3 and there was a remainder'
- 'Because 1003 + 3 has a decimal answer'
- 'Because 1 + 0 + 0 + 3 = 4, and 4 is not a multiple of 3'
- 'Because 1003 has a digital sum of 4'
- 'Because 1002 is the nearest in the 3 times table'
- 'Because 1000 is not divisible by 3'
- 'Because 999 is divisible by 3'.

*Do **not** award the mark if additional incorrect numbers are circled.*

Accept alternative unambiguous indications, eg ticks, crosses.

No mark is awarded for circling 'No' alone.

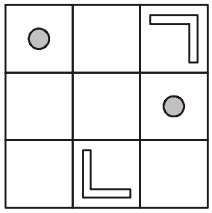
*Do **not** accept vague or arbitrary explanations, eg:*

- *'Because 1003 ends in 3'*
- *'Because 1003 is in the third column'*
- *'Because if you keep going in 3s you will go past it'.*

If 'Yes' is circled but a correct unambiguous explanation is given, then award the mark.

[2]

16. Award **TWO** marks for three shapes drawn correctly on the diagram as shown: up to 2



If the answer is incorrect, award **ONE** mark for:

- the 'L' shape and any one of the two circles drawn correctly

OR

- both circles drawn correctly **AND** the 'L' shape drawn in the correct square but orientated incorrectly.

Accept slight inaccuracies in drawing provided the intention is clear.

Circles need not be shaded.

[2]

17. (a) 6 — 1

(b) An explanation which recognises that a total of 10 children read between 4 and 6 books, eg: — 1 U1

- '10 children altogether read between 4 and 6 books, and 7 + 1 makes 8, so that leaves 2 children'
- 'Because 7 add 1 is 8, and you need 2 more'
- 'Because 10 children read 4 to 6 books'
- '8 and 2 more make 10 children altogether'
- '1+7 = 8,
  8 + 2 = 10'.

***Do not** accept vague or arbitrary explanations, eg:*

- *'Because 7 and 1 make 8'*
- *'Because there are 2 children left'.*

[2]

18. 196.45 — 1

[1]

19. Award **TWO** marks for the correct answer of 50 — up to 2

If the answer is incorrect, award **ONE** mark for evidence of appropriate working, eg — U1

$15 \div 3 = 5$

$5 \times 10 =$ wrong answer

*Calculation must be performed for the award of **ONE** mark.*

[2]

20. (a) Answer in the range $\frac{1}{10}$ to $\frac{3}{20}$ inclusive. 1

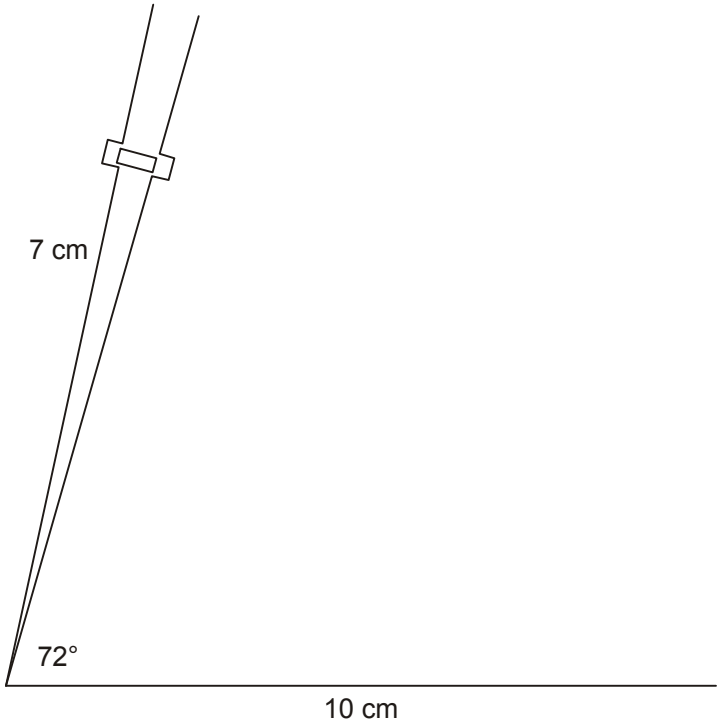
Range includes $\frac{1}{7}$, $\frac{1}{8}$, $\frac{1}{9}$ *and* $\frac{1}{10}$

Accept decimals (0.1 to 0.15 inclusive) or percentages (10% - 15% inclusive).

(b) Answer in the range 40 to 50 inclusive. 1

[2]

21. Markers will use a transparent overlay of this page to mark pupils' answers to this question.



Award **TWO** marks for a triangle drawn with an angle in the range 70° to 74° inclusive **AND** length of sloping line in the range 6.9cm to 7.1 cm inclusive (ie upper vertex of triangle within inner box on diagram). up to 2

If the answer is incorrect, award **ONE** mark for:

- a completed triangle drawn with an angle in the range 70° to 74° inclusive.

OR

- a completed triangle drawn with an angle in the range 69° to 75° inclusive **AND** length of sloping line in the range 6.8 cm to 7.2 cm inclusive.

Accept drawings where any side has been extended past a vertex.

Accept drawings which do not use the given 10 cm base line, provided they have used a line with a length in the range 9.9 cm to 10.1 cm inclusive.

*Accept for **ONE** mark drawings not using the given 10 cm base line which have a base line outside the range 9.9cm to 10.1 cm, provided they have an angle in the range 70° to 74° inclusive **AND** a sloping line in the range 6.9 cm to 7.1 cm inclusive.*

*Accept for **ONE** mark drawings of incomplete triangles, provided they have an angle in the range 70° to 74° inclusive **AND** a sloping line in the range 6.9 cm to 7.1 cm inclusive.*

[2]

22. Award **TWO** marks for the correct answer of 53 up to 2

If the answer is incorrect, award **ONE** mark for evidence of appropriate working which contains no more than **ONE** arithmetical error, eg:

- long division algorithm

wrong answer

$$16\overline{)\,848}$$
$$\underline{800}$$
$$48$$
$$\underline{-\,48}$$
$$0$$

*In all cases accept follow through of **ONE** error in working.*

*Calculation must be performed for the award of **ONE** mark.*

*Do **not** award any marks if the final answer is missing.*

Variations on algorithms are acceptable, provided they represent a viable and complete method.

- short division algorithm

wrong answer

$$16\overline{)\,84^{4}8}$$

Short division methods must be supported by evidence of appropriate carrying figures to indicate use of a division algorithm.

***No mark** is awarded for repeated addition / subtraction the wrong number of times.*

- repeated addition / subtraction methods, eg

848	
–400	25 x 16
448	
–400	25 x 16
48	
–48	3 x16
0	wrong answer

- repeated halving, eg

  848 ÷ 2 = 424

  424 ÷ 2 = 212

  212 ÷ 2: = 106

  106 ÷ 2 = wrong answer

  *No **mark** is awarded for repeated halving the wrong number of times.*

[2]

23. Award **TWO** marks for all three numbers, as shown: up to 2

94, 95, 96 U1

Accept numbers written in any order.

*All three numbers and no incorrect numbers must be given for the award of **TWO** marks.*

If the answer is incorrect, award **ONE** mark for:

- two numbers correct and none incorrect

OR

- three numbers correct and one incorrect

OR

- 93, 94, 95, 96, 97

[2]