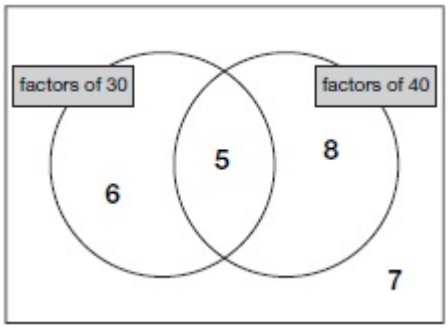
Mark schemes

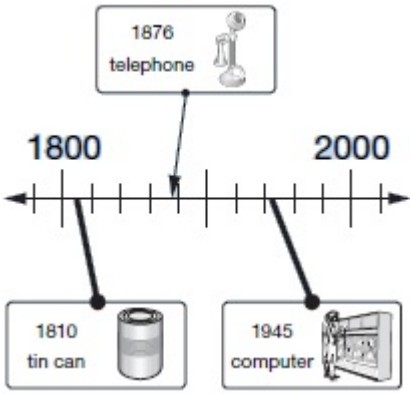
1 Award **TWO** marks for numbers written in the correct regions as shown:



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.

Up to 2

[2]

2 Award **TWO** marks for only three correct boxes ticked, as shown:

2	✓
3	✓
6	✓
9	
12	

Award **ONE** mark for:

- only two correct boxes ticked and no incorrect boxes ticked

OR

- three correct boxes ticked and one incorrect box ticked.

Accept alternative unambiguous positive indications, e.g. Y.

Up to 2 marks

[2]

3 Award **TWO** marks for any three of the following numbers written in any order:

- 2
- 6
- 10
- 30

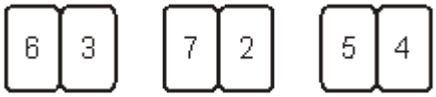
If the answer is incorrect, award **ONE** mark for two numbers correct.

Up to 2m

[2]

4 Three multiples of 3, eg:

OR



Multiples may be given in any order.
Digits may be in either order, eg 24 ***OR*** *42*
Do not *accept digits used more than once.*
Do not *accept digits other than those shown.*

U1

[1]

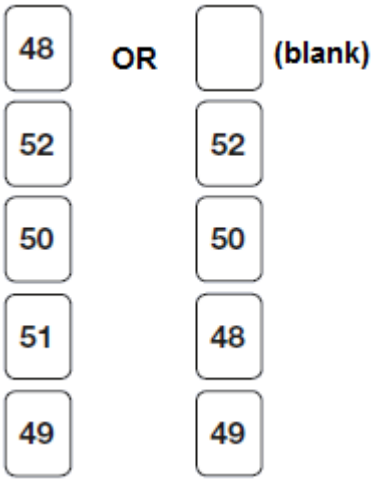
5 24 **AND** 48 only

Numbers may be given in either order.

[1]

6 Award **TWO** marks for the correct answer as shown:

If the answer is incorrect, award **ONE** mark for 4 true statements with no number repeated (within those 4), eg:



Do not *accept numbers other than those given.*

(Multiple of 3 can be 48 ***OR*** *51)*

(Multiple of 4 can be 48 ***OR*** *52)*

Up to 2
U1

[2]

7 An explanation which gives a counter-example to illustrate that not all numbers ending in 4 are multiples of 4, eg:

- '14 is not a multiple of 4'
- '4, 24 and 44 are multiples of 4, but not 14 and 34'
- '14 or 34 don't work'
- '54'

OR

an explanation which recognises that only numbers ending in 4 which have an even number of tens are multiples of 4, eg:

- 'It has to have an even number of 10s as well, like 20 or 40'
- '14, 24, 34, 44, 54, 64 – only half of them are'
- '4 doesn't go into 10 so 14 isn't'.

No mark is awarded for circling 'No' alone.

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

- *'Some numbers end in a 4 but aren't multiples of 4'*
- *'16 doesn't end in 4'*
- *'Not all multiples of 4 end in 4'*
- *'24 is a multiple of 4 but the next one isn't'*
- *'4, 8, 12, 16, 20, 24 etc'.*

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

U1

[1]

8 (a)

71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

1

(b)

71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

***Do not** award the mark if more than one number is circled.*

Accept alternative unambiguous indications, eg numbers ticked, crossed or underlined.

1

[2]

9 Award **TWO** marks for three rows completed correctly as shown:

50

(120) **OR** 140 **OR** 160 **OR** 180

(210) **OR** 240 **OR** 270

(320) **OR** 360

If the answer is incorrect, award **ONE** mark for two rows correct.

Up to 2

[2]

10 Award **ONE** mark for a correct explanation of why the 95 **AND** 87 are **NOT** prime, e.g.

- 87 is divisible by 3 and/or 29 **AND** 95 is divisible by 5 and/or 19
- 87 is in the 3 times table **AND** 95 is in the 5 times table
- 95 is divisible by five because every number in the five times table ends in five or zero. 87 is divisible by three because 9 is in the three times table so is ninety. Ninety minus three is 87
- 8 + 7 = 15 and 15 is divisible by 3 **AND** 95 is divisible by 5

No mark is awarded for circling '89' alone.

Both non-primes must be explained correctly for the award of the mark.

***Do not** accept vague or incomplete explanations, e.g.*

- *The other 2 numbers have more than 2 factors (vague)*
- *87 is divisible by 3 (incomplete).*

***Do not** accept explanations which include incorrect mathematics or incorrect information that is relevant to the explanation, e.g.*

- *3 × 27 = 87*
- *89 has three factors*
- *no numbers go into 89*

[1]

11 Award **ONE** mark for 2, 3 and 5 circled only.

[1]

12 All three correct
61
15
65

2

or

Any two correct

1

[2]