Q1.

Here is part of a number sequence.

The numbers increase by the same amount each time.

750	755	760	765	770
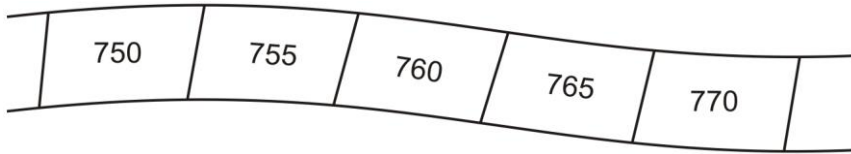
The sequence continues.

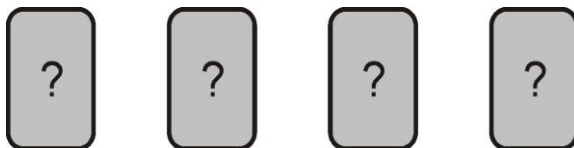Circle **all** of the numbers below that would appear in the sequence.

840   905   989   1000   2051

Q2.

Debbie has a pack of cards numbered from 1 to 20

She picks four different number cards.

?	?	?	?

Exactly three of the four numbers are multiples of 5

Exactly three of the four numbers are even numbers.

All four of the numbers add up to less than 40

Write what the numbers could be.

Q3.

Circle **three** numbers that add to make a **multiple of 10**

11   12   13   14   15   16   17   18   19

1 mark

Q4.

Write **all** the common multiples of 3 and 8 that are **less than 50**

_____

1 mark

Q5.

Amir says,

'All numbers that end in a 4 are multiples of 4'.

Is he correct?
Circle **Yes** or **No**.   Yes / No

Explain how you know.

1 mark

Q6.

Here are six digit cards.

| 2 | 3 | 4 | 5 | 6 | 7 |

Use **all six** digit cards to make three multiples of 3

| | | | | | |

Q7.

Here is a diagram for sorting numbers.

Write **one number** in each white section of the diagram.

	less than 1000	1000 or more
multiples of 20		
not multiples of 20		

Q8.

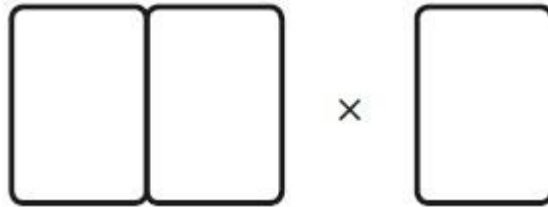Chen uses these digit cards.

| 5 | 6 | 9 |
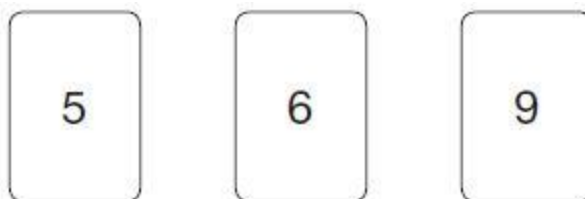
She makes a 2-digit number and a 1-digit number.

She multiplies them together.

Her answer is a **multiple of 10**
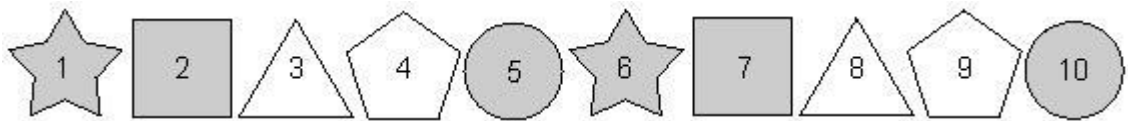
What could Chen's multiplication be?

1 mark

Q9.

Here is a repeating pattern of shapes.

Each shape is numbered.

The pattern continues in the same way.

Write the numbers of the next two **stars** in the pattern.

	and	

1 mark

Complete this sentence.

Shape number 35 will be a circle because ...
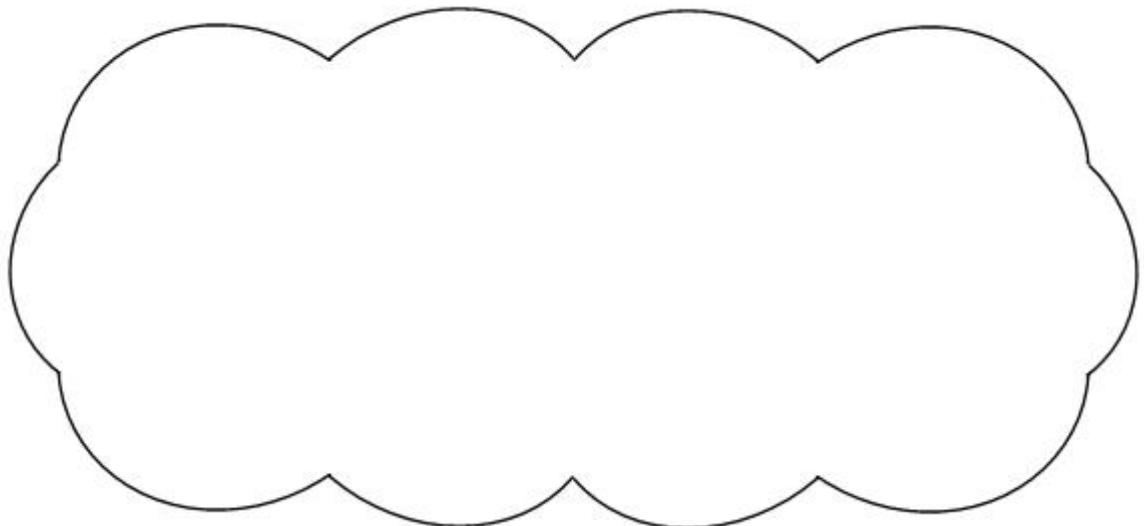
1 mark

Q10.

Write **one** number which fits **all three** of these statements.

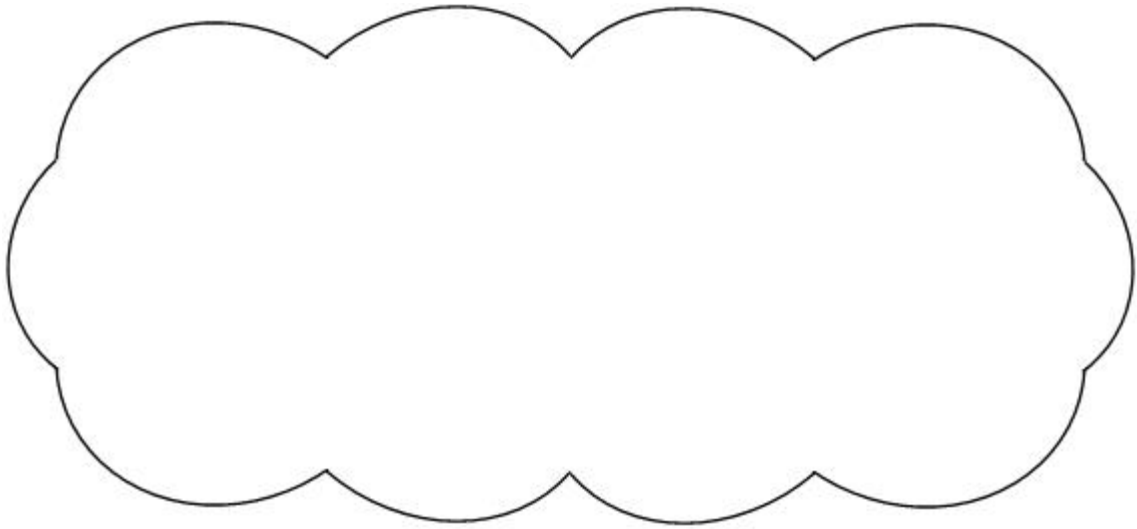It is a multiple of 4

It is a multiple of 6

It ends in '8'

<div style="border:1px solid black; width:200px; height:60px;"></div>

Explain why a number which ends in '3' **cannot** be a multiple of 4

Q11.

In the circles, write a multiple that belongs to each set.

One has been done for you.

numbers from 1 to 99 — multiple of **10** — (50)

numbers from 101 to 199 — multiple of **20** — ( )

numbers from 201 to 299 — multiple of **30** — ( )

numbers from 301 to 399 — multiple of **40** — ( )
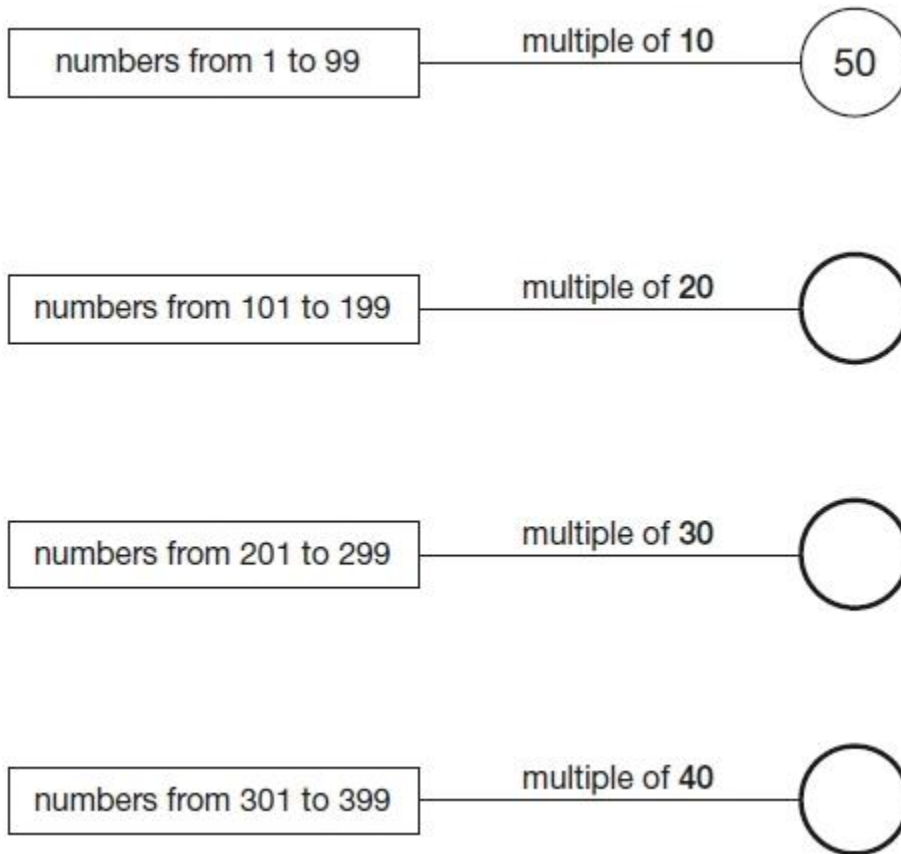
2 marks

Q12.

Here is a diagram for sorting numbers.

Write **each** number in its correct place on the diagram.

2   20   201   2000

two-digit numbers   multiples of 5   three-digit numbers

2 marks

Q13.

24 white balloons
24
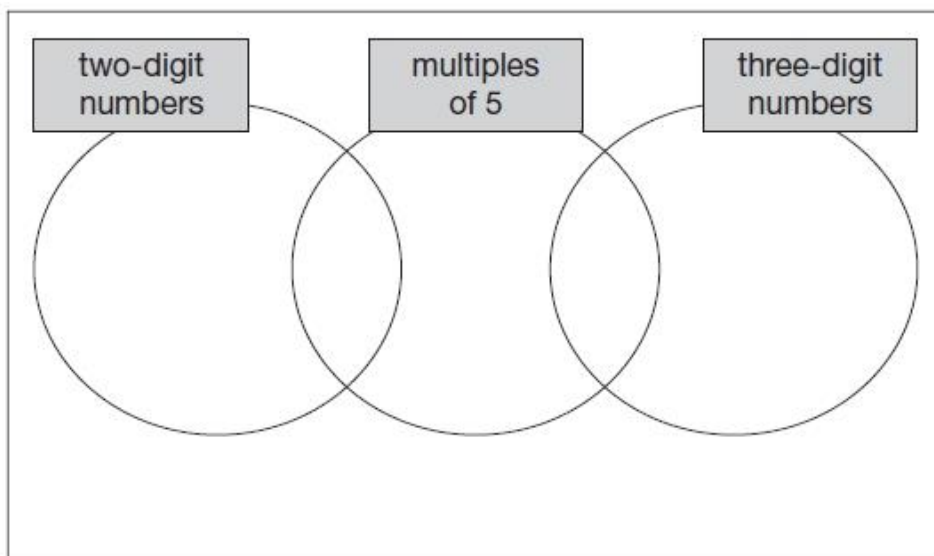
12 red balloons
12

Adam buys **6** bags of white balloons.

Chen buys **3** bags of red balloons.

Adam says,

'I have four times as many balloons as Chen.'

Explain why Adam is correct.

1 mark

Q14.

The numbers in this sequence increase by the same amount each time.

Write the missing numbers.

| | 42 | 49 | | 63 | |

2 marks

Mark schemes

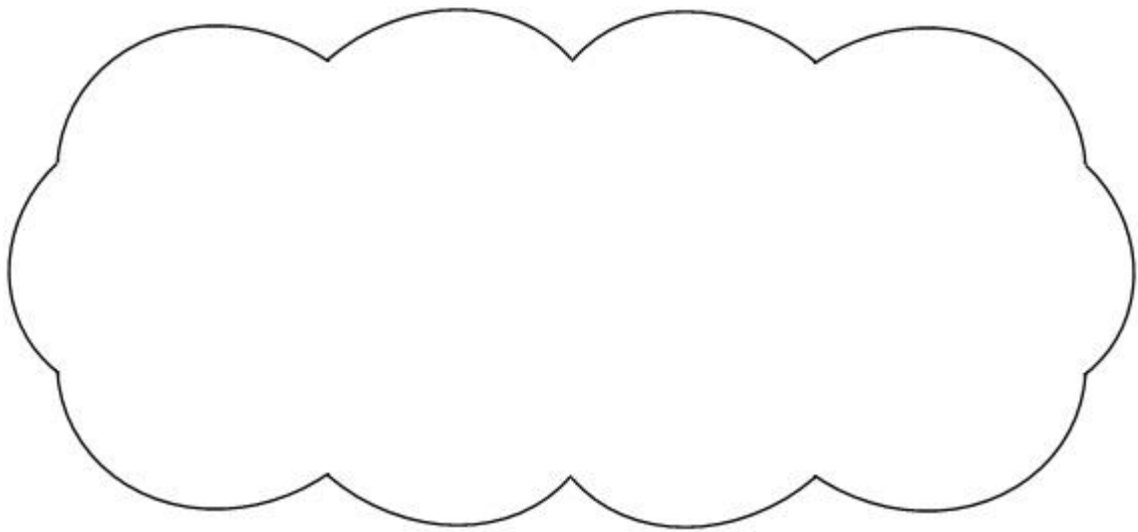### Q1.

Three numbers circled as shown:

$$(840)(905)\ 989\ (1000)\ 2051$$

> *__Do not__ award the mark if additional incorrect numbers are circled.*
>
> *Accept: alternative unambiguous indications, eg numbers ticked, crossed or underlined.*

U1

[1]

Q2.

| 2 | 5 | 10 | 20 |

OR

| 4 | 5 | 10 | 20 |

> ***Accept the four numbers listed in any order.***

U1

[1]

Q3.

One of the following triples:

11, 12, 17	13, 18, 19
11, 13, 16	14, 17, 19
11, 14, 15	15, 16, 19
12, 13, 15	15, 17, 18

> *Accept alternative unambiguous indications, eg ticks, crosses.*
>
> *__Do not__ award the mark if fewer or more than three numbers are circled.*

[1]

Q4.

24 **AND** 48 only

> *Numbers may be given in either order.*

[1]

Q5.

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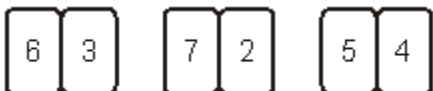> *If 'Yes' is circled but a correct, unambiguous explanation is given, then award the mark.*

U1

[1]

Q6.

Three multiples of 3, eg:

| 3 | 6 | | 2 | 4 | | 5 | 7 |

OR

| 6 | 3 | | 7 | 2 | | 5 | 4 |

> *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]

Q7.

Award **TWO** marks for one correct number written in each white

section of the table, eg

	less than 1000	1000 or more
multiples of 20	100	2000
not multiples of 20	19	1001

If the answer is incorrect, award **ONE** mark for three sections completed correctly.

*Accept more than one number in each section as long as **all** are correct.*

Up to 2

[2]

Q8.

95 × 6 **OR** 96 × 5

[1]

Q9.

(a) ⬜11⬜ AND ⬜16⬜

1

(b) An explanation which recognises that the numbers in circles are multiples of 5, eg

- Because all the circles are multiples of 5.

- Because 35 is in the five times table.

    Both numbers must be correct for the award of the mark.

    Answers may be written in either order.

    ***Do not** accept vague or arbitrary explanations, eg*
    - *'Because you keep on adding 5';*
    - *'Because the circles are 5 more each time'.*

U1

[2]

Q10.

(a) A multiple of 12 which ends in '8', eg 48 **OR** 108 **OR** 168 **OR** 228 **OR** 288

1

(b) An explanation which recognises that an odd number cannot be a multiple of 4, eg:

- 'A multiple of 4 cannot be odd'

- 'All multiples of 4 are even'

- 'An odd number cannot be a multiple of 4'

- 'Multiples of 4 must end in 0, 2, 4, 6 or 8'

- '4, 8, 12, 16, 20, 24 don't end in 3'.

    Do not *accept vague or incomplete explanations, eg:*
    - *'3 is not a multiple of 4'*
    - *'3 is too small'*
    - *'4 is even and 3 is an odd number'*
    - *'13, 23, 33 and 43 are not multiples of 4'*
    - *'A number which ends in 3 cannot be a multiple of 4'*
    - *'3 isn't in the 4 times table'*
    - *'4 doesn't go into any number that ends in 3'.*

U1

[2]

Q11.

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

50

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

(210) **OR** 240 **OR** 270
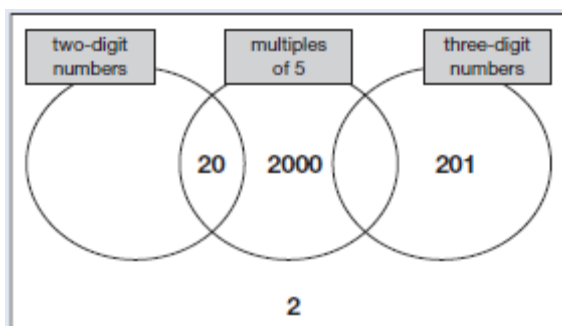
(320) **OR** 360

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

Up to 2

[2]

Q12.

Award **TWO** marks for all four numbers correctly placed as shown:

If the answer is incorrect, award **ONE** mark for three numbers correctly placed.

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

Accept alternative unambiguous indications, eg lines drawn from the numbers to the appropriate regions of the diagram.

Up to 2m

Q13.

An explanation that shows Adam has four times as many balloons as Chen, e.g.

- 24 × 6 is 4 times as many as 12 × 3
- 144 is four times 36
- 144 ÷ 4 = 36
- 144 ÷ 36 = 4
- 36 × 4 = 144
- Adam buys twice as many bags of twice as many balloons, so it's doubled twice
- 24 is double 12 and 6 is double 3, so it's doubled twice
- Chen buys half the amount of bags and each bag has half the number of

  balloons, so he has $\frac{1}{4}$ of the amount.

> *Do not* accept vague or incomplete explanations, e.g.
> • *Adam buys more bags and there are more balloons in each bag*
> • *Adam buys twice as many bags of twice as many balloons*
> • *24 is double 12 and 6 is double 3.*

[1]

Q14.

Award **TWO** marks for three correct numbers, as shown:

35	42	49	**56**	63	**70**

Award **ONE** mark for two numbers correctly placed.

Up to 2m

[2]