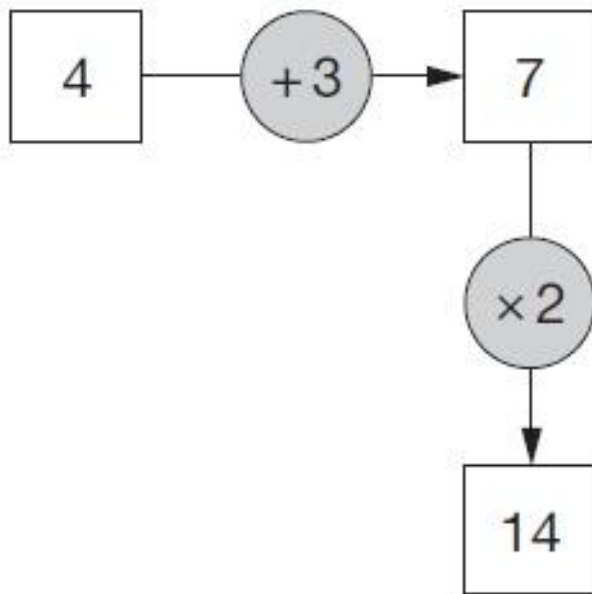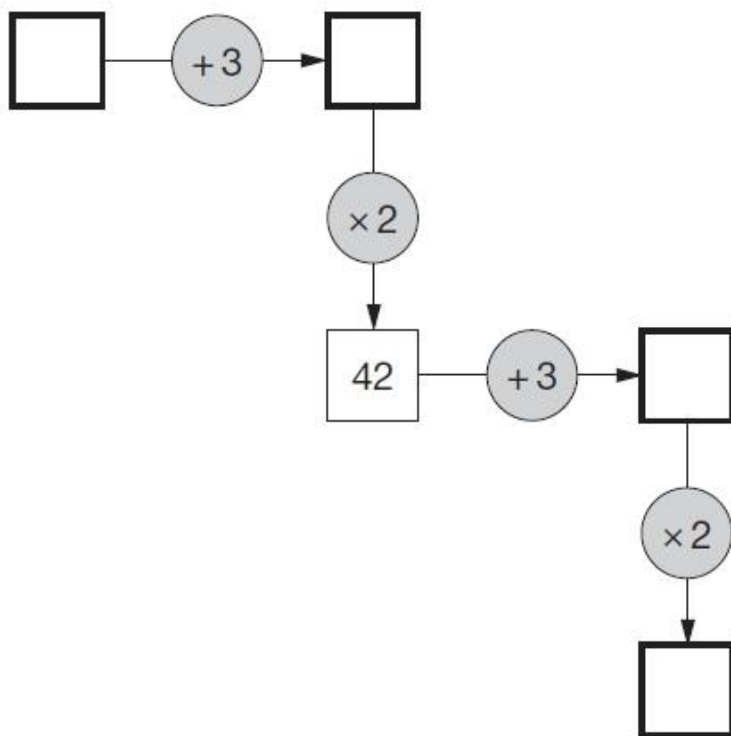**Q1.**

Here is a number machine.
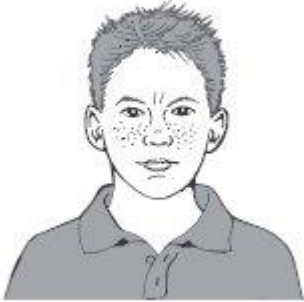

Here is another number machine.

Write the four missing numbers.

2 marks

Q2.

Liam thinks of a number.

He divides it by 9 and then adds 25 to the result.

His answer is 36

What number did Liam start with?

Q3.

Lara chooses a number less than 100

She divides it by 3 and then subtracts 11

She then divides this result by 2

Her answer is 10.5

What was the number she started with?

Q4.

Amy thought of a number.

She added 0.5 to her number and then doubled the result.

Then she subtracted 0.5 and doubled the new result.

Her final answer was 61.   What number did Amy start with?

Q5.

Lara chooses a number less than 20

She divides it by 2 and then adds 6
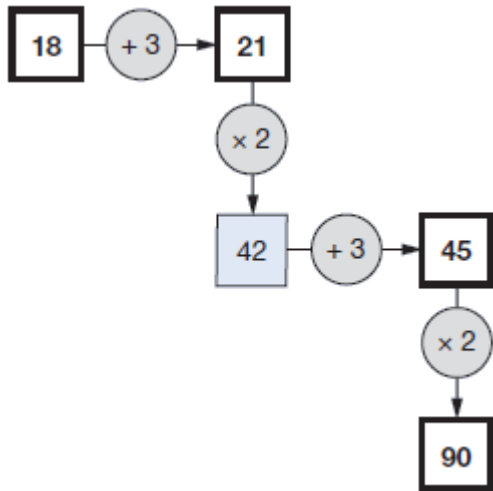
She then divides this result by 3

Her answer is 4.5

What was the number she started with?

Mark schemes

Q1.
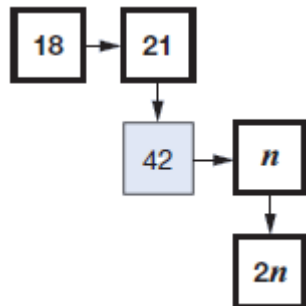
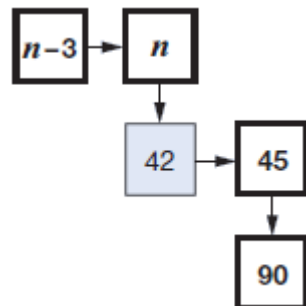Award **TWO** marks for all four numbers correct as shown:

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

*If the answer is incorrect, award **ONE** mark for two numbers correct **AND** two numbers appropriately linked, ie*

OR

*where **n** is any number.*

Up to 2

[2]

Up to 2m

[2]
[2]

Q2.

Award **TWO** marks for the correct answer of 99

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

36 – 25 = 11

11 × 9

OR

(36 – 25) × 9

Answer need not be obtained for the award of ONE mark.

Up to 2

[2]

Q3.

Award **TWO** marks for the correct answer of 96

If the answer is incorrect, award **ONE** mark for evidence of an appropriate method, e.g:

•   10.5 × 2 = 21
      21 + 11 = 32
      32 × 3

Answer need not be obtained for the award of ONE mark.

Up to 2

[2]

Q4.

Award **TWO** marks for the correct answer of 15

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

■   61 ÷ 2 = 30.5

        30.5 + 0.5 = 31

        31 ÷ 2 = 15.5

        15.5 − 0.5 = wrong answer

OR

■   61 ÷ 2 = 30.5

        30.5 − 0.5 = 30 (step error)

        30 ÷ 2 = 15

        15 − 0.5 = 14.5 (wrong answer)

Working must be carried through to reach an answer for the

*award of **ONE** mark.*

Up to 2m

[2]

Q5.

Award **TWO** marks for the correct answer of 15.

If the answer is incorrect, award **ONE** mark for evidence of an appropriate method, e.g.

- 4.5 × 3 = 13.5
  13.5 – 6 = 7.5
  7.5 × 2

*Answer need not be obtained for the award of **ONE** mark.*

*Misreads are **not** allowed.*