

M1.

- (a) 6, 9, 12, 15
or difference of 3
or $3n$ or $2n$ seen

M1

$(n +) 2n + 3$
or $3n + 3$ or $3(n + 1)$
or $3 \times 100 + 3$
oe

M1dep

303

A1

- (b) $\times 2 + 3$

B1

[4]

M2.

- (a) $2n + 19$

B1

- (b) **Alternative method 1**

$4a - 9$

B1

$8a - 21$

ft 2 x their $(4a - 9) - 3$ correctly simplified

B1ft

7

7 scores B1B1B1

ft correct solution of their $(8a - 21) = 35$

B1ft

Alternative method 2

19

B1

11

*ft (their $19 + 3$) $\div 2$ correctly evaluated***B1ft**

7

*7 scores B1B1B1**ft (their $11 + 3$) $\div 2$ correctly evaluated***B1ft****Additional Guidance**

7 in working with a different final answer

e.g. 19, 11, 7, 5 with answer 5

B1B1B0

Accept embedded answers

[4]**M3.**

- (a) 20 and 'add 3', 'increases by 3' or
- $3n + 2$

*oe B1 for either answer***B2**

- (b)
- $6n + 1$

*oe B1 for $6n$ or $6 \times n$ or $n \times 6$.**Do not accept $n6$ but $n6 + 1$ is B1**Accept other letters***B2****[4]****M4.**

$6n + 1$

*oe B1 for $6n$ or $6 \times n$ or $n \times 6$.**Do not accept $n6$ but $n6 + 1$ is B1**Accept other letters***B2****[2]**

M5.(a) 17 and 21

B1

(b) $4n + 1$

oe

B1 $4n (\pm k)$

B2

Additional Guidance

$4 \times n + 1$ is B2

$4 \times n (+ k)$ is B1

(c) $4n + 1 = 53$ or $4n = 52$

M1

13

A1

Alternative method 1

$(53 - 1) \div 4$

oe

eg $1 + 4 + 4 + 4 + 4 + 4 + 4 + 4 + 4$
 $+ 4 + 4 + 4 + 4 + 4 + 4 (= 53)$

M1

13

A1

Alternative method 2

Counts up in 4s to within 4 of 53

oe

allow one error or omission

M1

13

A1

Additional Guidance

5, 9, 13, 17, 21, 25, 29, 33, 37, 41, 45, 49

Answer 12

is M1A0

5, 9, 13, 17, 25, 29, 33, 37, 41, 45, 49

Answer 12

is M1A0

5, 9, 13, 17, 21, 24, 28, 32, 36, 40, 44, 48

Answer 12

is M1A0

[5]

M6.4n

Accept $4 \times n$ or $n \times 4$ but not $n4$

M1

$4n + 2$

oe

eg $4 \times n + 2$

$3n + n + 2$

$2(2n + 1)$

SC1 for $n4 + 2$

A1

[2]

M7.

$$(n=1) \quad 4a = \frac{10 \times 1 - 2}{3}$$

$$(n=2) \quad 9a = \frac{10 \times 2 - 2}{3} \quad \text{or}$$

$$(n=3) \quad 14a = \frac{10 \times 3 - 2}{3} \quad \text{or}$$

$$(n=4) \quad 19a = \frac{10 \times 4 - 2}{3}$$

M1

$$\frac{2}{3}$$

oe

A1

Alternative method

$$5an - a = \frac{10n - 2}{3}$$

oe

M1

$$\frac{2}{3}$$

oe

A1

[2]

M8.

(a) 23

If no answer on answer line, accept answer in sequence

If contradictory answers on answer line and in sequence, answer line takes precedence

Accept 23 written in sequence and 'add 4.5' (or equivalent) seen on answer line

B1

(b) 6

If no answer on answer line, accept answer in sequence

*If contradictory answers on answer line and in sequence,
answer line takes precedence*

*Accept 6 written in sequence and 'subtract 4' (or equivalent)
seen on answer line*

B1

(c) $\frac{13}{23}$

B1 correct numerator or denominator.

If no answer on answer line, accept answer in sequence

*If contradictory answers on answer line and in sequence,
answer line takes precedence*

*If correct answer in sequence and correct rule or next term
on answer line B2*

B2

[4]

M9.(a) A correct value for the sequence for $n > 1$

(2, 4.5, 8, 12.5, 18, 24.5, 32, 40.5, 50)

or $n^2 > 100$

or a value of $n > 1$ substituted into 2

$\frac{n^2}{2}$ and an attempt to evaluate

M1

$n = 11$ or 60.5 oe

SC1 $\frac{11^2}{2}$ (11 embedded with no attempt to evaluate)

A1

(b) $3n + 4$ or $4 + 3n$

B1 $3n + k$ or $k + 3n$ k any value

B2

[4]

M10. (a) (2), -2

B1 for showing next term is 2

B2

(b) $3n - 2$

3rd expression

B1

[3]