

Mark schemes

Q1.

(a) 63

B1

(b) $5(y + 1)$ or $5y + 5$

or $(4 + 1)(y + 1)$ or $4y + 4 + y + 1$

B1

Additional Guidance

Condone $(4 + 1) \times (y + 1)$

B1

Condone $5 \times (y + 1)$ or $5 \times y + 5$

B1

Condone missing final bracket $5 \times (y$

B1

Do not ignore further incorrect work

(c) $(x + 1)(y + 1)$

or $x(y + 1) + y + 1$ or

$y(x + 1) + x + 1$ or xy

$+ x + y + 1$

B1

Additional Guidance

Condone $(x + 1) \times (y + 1)$

B1

Condone $x \times (y + 1) + y + 1$

B1

Do not ignore further incorrect work

(d) $(2x + 1)(y + 1)$

or $2x(y + 1) + y + 1$

or $y(2x + 1) + 2x + 1$

or $2xy + 2x + y + 1$

B1

Additional Guidance

Condone $(2x + 1) \times (y + 1)$

B1

Condone $2x \times (y + 1) + y + 1$

B1

Do not ignore further incorrect work

[4]

Q2.

(a) 511

B1

7 × 73
or 7 is a factor
or 73 is a factor

B1

(b) Incorrect and 25 – 1 : 27 – 1 ≠ 5 : 7
or 31 : 127 shown

B1

[3]

Q3.

60

B1

[1]

Q4.

105

B2 a × b × c with two correct from 3, 7 and 5
B1 a × b × c with one correct from 3, 7 and 5
or
any two of 3, 7 and 5 possibilities identified for two of the digits

B3

[3]

Q5.

3 choices for 1st digit

M1

3 × 4 × 3 × 2 (× 1)

M1dep

72

A1

[3]

Q6.

Alternative method 1

1800

B2 a × b × c × d with at least 3 correct from 9, 10, 10 and 2
B1 a × b × c × d with at least 2 correct from 9, 10, 10 and 2

or
identifies 9 possibilities for first digit
or
identifies 2 possibilities for final digit

B3

Alternative method 2

9000

The number of digits between 1000 and 9999 inclusive

M1

their $9000 \div 5$

M1dep

1800

A1

[3]