Mark schemes

Q1.

Any correct product of 36 using a prime factor

> *2 and 18 2 and 2 and 9 3 and 12 3 and 3 and 4 2 and 3 and 6 May be on a factor tree or repeated division*

M1

2 and 2 and 3 and 3
oe May be on a factor tree or repeated division

A1

$2^2 \times 3^2$ or $3^2 \times 2^2$

A1

Additional Guidance

Allow any number of 1s included as factors for up to M1A1 only

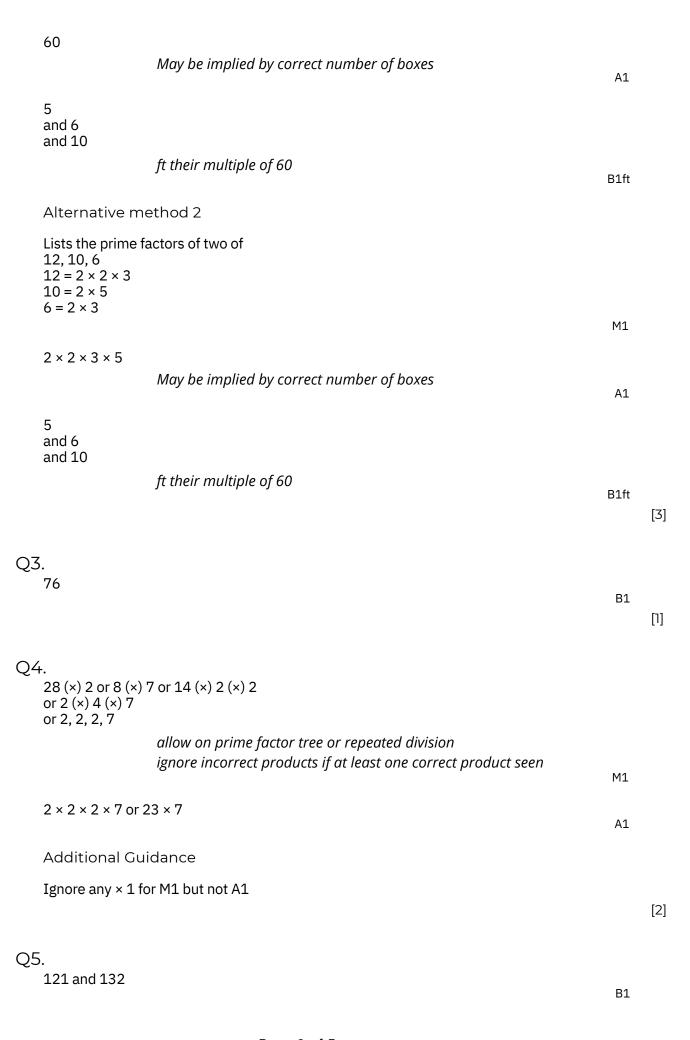|	
$1 \times 2^2 \times 3^2$	M1A1A0
$2^2 . 3^2$	M1A1A1
$2 + 2 + 3 + 3$	M1A1A0
$2^2 + 3^2$	M1A1A0
$2^2 3^2$ or $2^2, 3^2$	M1A1A0
$2 \times 2 \times 3 \times 3$ and $2^2 \times 3^2$ on answer line	M1A1A0
but $2 \times 2 \times 3 \times 3 = 2^2 \times 3^2$ on answer line	M1A1A1
$2^2 \times 3^2 = 64$	M1A1A0
6×6 with no prime factorisation	M0A0A0

[3]

Q2.

Alternative method 1

Lists the multiples of two of 12, 10, 6
12, 24, 36… 60… 10, 20, 30… 60… 6, 12, 18… 60…

> *Writes out all the multiples to at least 60*

M1

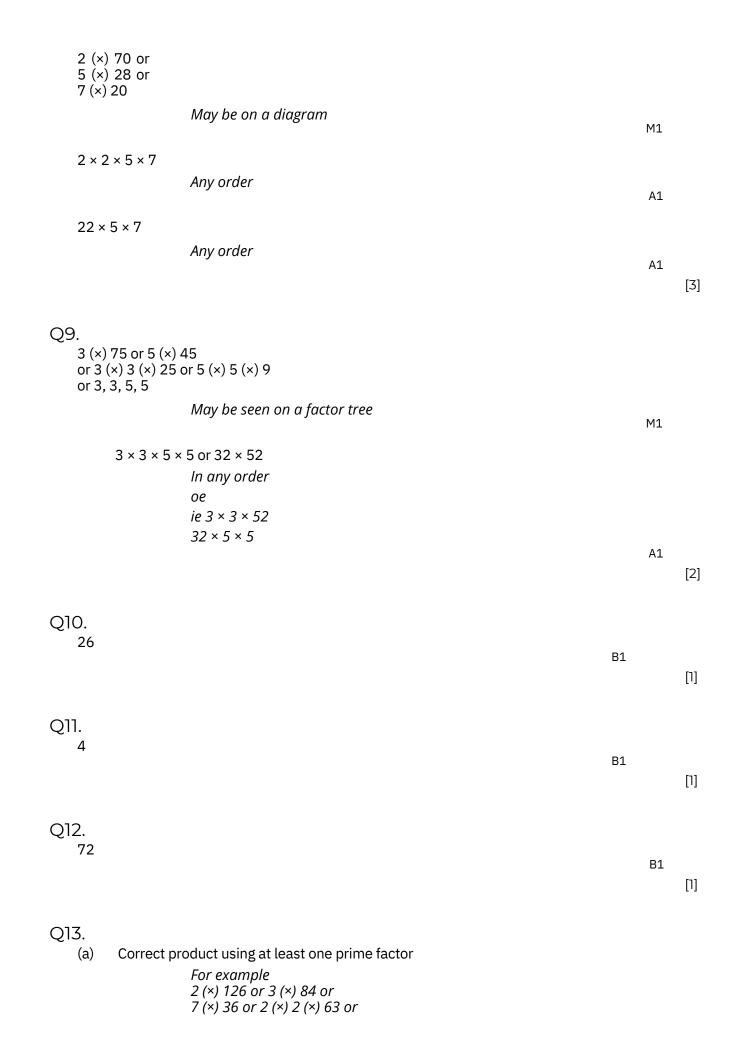AQA GCSE Maths - Factors and Multiples (F)

60

May be implied by correct number of boxes

A1

5
and 6
and 10

ft their multiple of 60

B1ft

Alternative method 2

Lists the prime factors of two of
12, 10, 6
12 = 2 × 2 × 3
10 = 2 × 5
6 = 2 × 3

M1

2 × 2 × 3 × 5

May be implied by correct number of boxes

A1

5
and 6
and 10

ft their multiple of 60

B1ft

[3]

Q3.

76

B1

[1]

Q4.

28 (×) 2 or 8 (×) 7 or 14 (×) 2 (×) 2
or 2 (×) 4 (×) 7
or 2, 2, 2, 7

allow on prime factor tree or repeated division
ignore incorrect products if at least one correct product seen

M1

2 × 2 × 2 × 7 or 23 × 7

A1

Additional Guidance

Ignore any × 1 for M1 but not A1

[2]

Q5.

121 and 132

B1

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Q6.

72

B1

[1]

Q7.

Alternative method 1

At least four 4-digit numbers listed

greater than 8000

> *ie at least four from*
> *8245   8254   8425*
> *8452 8524 8542*

M1

6

A1

Alternative method 2

At least four 3-digit numbers listed

using 2, 4 and 5

> *ie at least four from*
> *245   254   425   452*
> *524 542*

M1

6

A1

Alternative method 3

(1 ×) 3 × 2 (× 1)

M1

6

A1

[2]

Q8.

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2 (×) 70 or
5 (×) 28 or
7 (×) 20

May be on a diagram

M1

2 × 2 × 5 × 7

Any order

A1

22 × 5 × 7

Any order

A1

[3]

Q9.

3 (×) 75 or 5 (×) 45
or 3 (×) 3 (×) 25 or 5 (×) 5 (×) 9
or 3, 3, 5, 5

May be seen on a factor tree

M1

3 × 3 × 5 × 5 or 32 × 52

In any order
oe
ie 3 × 3 × 52
32 × 5 × 5

A1

[2]

Q10.
26

B1

[1]

Q11.
4

B1

[1]

Q12.
72

B1

[1]

Q13.
(a)   Correct product using at least one prime factor

For example
2 (×) 126 or 3 (×) 84 or
7 (×) 36 or 2 (×) 2 (×) 63 or

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2 (×) 3 (×) 42
May be implied
eg in a factor tree or repeated division

M1

2 × 2 × 3 × 3 × 7 or
$2^2 × 3^2 × 7$

A1

(b)   84

B1

[3]

Q14.
97

B1

[1]

Q15.
1, 2, 3, 6, 9 and 18

B1 for 4 or 5 correct (and 1 incorrect)

B2

[2]

Q16.
2 (×) 140 or 5 (×) 56 or 7 (×) 40

oe Correct product with at least one prime factor

M1

2 × 2 × 2 × 5 × 7

oe

A1

[2]

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