

Revision F2 (Number) [21] MARKSCHEME

1.

(a) $2(\times) 18$ or $3(\times) 12$ or $2^2(\times) 9$ or $4(\times) 3^2$ or $2(\times) 3(\times) 6$ M1

For correct use of prime and other factor(s)

May be seen on 'exploding tree' or 'division' list

List of factors is MO unless paired and includes 2, 18 or 3, 12

$2 \times 2 \times 3 \times 3$ or 2.2.3.3 A1

$2^2 \times 3^2$ "1 x" included is A0

(b) $45 = 3(\times) 3(\times) 5$ M1

36, 72, 108, 144, 180, ... and 45, 90, 135, 180, ...

180 A1

Accept $2^2 \times 3^2 \times 5$

SC1 Answer of any other common multiple eg 360, 540, 720 etc

[4]

2.

$\frac{21}{24} - \frac{8}{24}$ M1

At least one correct and denominator

24 [or multiple of 24]

$\frac{13}{24}$ A1

oe

[2]

3.

(a) (i) 5 B1

oe

(ii) $\frac{4}{3}$ B1

oe

(b) $\frac{1}{6}$ and $\frac{2}{3}$ B1 B1

One or two correct and one incorrect answer given will be B1B0

One or two correct and both incorrect answers given B0B0

(c) 0.2̇ B1

Accept 0.2^r or 0.2...

[5]

4.

(a) 2×54 or 3×36

M1

$2 \times 2 \times 3 \times 3 \times 3$

A1

Accept $2^2 \times 3^3$

(b) $2^3 \times 3^2$

B1

HCF = 36 or $2^2 \times 3^2$

B1

SCI for 6, 12 or 18

[4]

5.

Attempt to find common denominator

M1

eg $16/40, 12/40, 14/40, 13/40$

Any correct conversion

A1

$3/10$

oe

A1

[3]

6.

$100n = 21.6161\dots$

$n = 0.21616\dots$

and subtracts

M1

$1000n = 216.1616\dots$

$10n = 2.1616\dots$

and subtracts

$99n = 21.4$

A1

$990n = 214$

$\frac{21.4}{99} = \frac{107}{495}$

$\frac{214}{990} = \frac{107}{495}$

Must see $\frac{214}{990}$ as well as $\frac{107}{495}$

Must see $\frac{21.4}{99}$ or $\frac{214}{990}$

as well as $\frac{107}{495}$

A1

Alt 15

$$0.2 + 0.01616\dots$$

$$100n = 1.61616\dots$$

$$n = 0.01616\dots$$

and subtracts

(or uses $1000n$ and $10n$ and subtracts)

$$0.2 + 0.01616\dots$$

$$100n = 16.1616\dots$$

$$n = 0.1616\dots$$

and subtracts

(or uses $1000n$ and $10n$ and subtracts)

M1

$$99n = 1.6$$

A1

$$99n = 16 \text{ and obtains } \frac{16}{990}$$

$$\frac{2}{10} + \frac{1.6}{99} = \frac{198+16}{990} = \frac{214}{990} = \frac{107}{495}$$

$$\frac{2}{10} + \frac{16}{990} = \frac{198+16}{990} = \frac{214}{990} = \frac{107}{495}$$

Must see $\frac{214}{990}$ as well as $\frac{107}{495}$

A1

Must see $\frac{214}{990}$ as well as $\frac{107}{495}$

SC2 $0.2 + \frac{16}{990}$ and fully correct subsequent working

[3]