IGCSE Mathematics

Paper 2

Unsolved Topical

Past Papers with Answer Key

All Variants

2014-2021

PREFACE

Excellence in learning cannot be claimed without application of concepts in a dexterous way. In this regard one of the logical approach is to start in chunks; like chapter wise learning and applying the concept on exam based questions.

This booklet provides an opportunity to candidates to practice topic wise questions from previous years to the latest. Extensive working of Team MS Books has tried to take this booklet to perfection by collaborating with top of the line teachers.

We have added answer key / marks scheme at the end of each topic for the candidate to compare the his/her answer to the best.

MS Books strives to maintain actual spacing between consecutive questions and within options as per CAIE format which gives students a more realistic feel of attempting question.

Review, feedback and contribution in this booklet by various competent teachers of a subject belonging to renowned school chains make it most valuable resource and tool for both teachers and students.
With all belief in strength of this resource material I can confidently claim that it is worth in achieving brilliance.

Our sincere thanks and gratification to **Mr. Zafar Iqbal** who took out special time to help compile and manage this booklet. We would also like to appreciate Mathematics faculty for reviewing and indorsing it.

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TABLE OF CONTENTS

Numbers

1   **(a)**   Write 90 as a product of prime factors.

Answer(a) .... [2]

(b)   Find the lowest common multiple of 90 and 105.

Answer(b) .... [2]

2   **(a)**   Write 30 as a product of its prime factors.

Answer(a) .... [2]

(b)   Find the lowest common multiple (LCM) of 30 and 45.

Answer(b) .... [2]
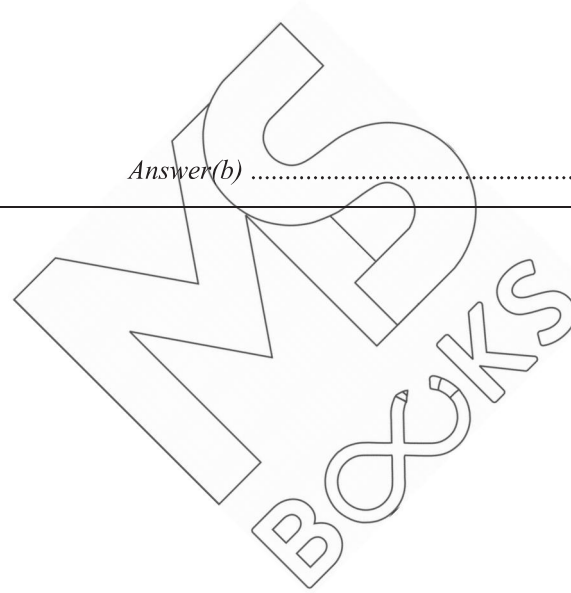
Q9/22/M/J/15

3   Write the recurring decimal $0.2\dot{5}$ as a fraction.
[$0.2\dot{5}$ means 0.2555...]

Answer .... [2]

Q5/23/O/N/15

4   11   12   13   14   15   16

From the list of numbers, write down

(a)   the factors of 60,

Answer(a) .... [1]

(b)   the prime numbers.

Answer(b) .... [1]

Q6/21/M/J/16

5   Find the lowest common multiple (LCM) of 36 and 48.

.... [2]

Q12/22/M/J/16

6   Write the recurring decimal $0.3\dot{6}$ as a fraction.
Give your answer in its simplest form.
[$0.3\dot{6}$ means 0.3666…]

.... [3]
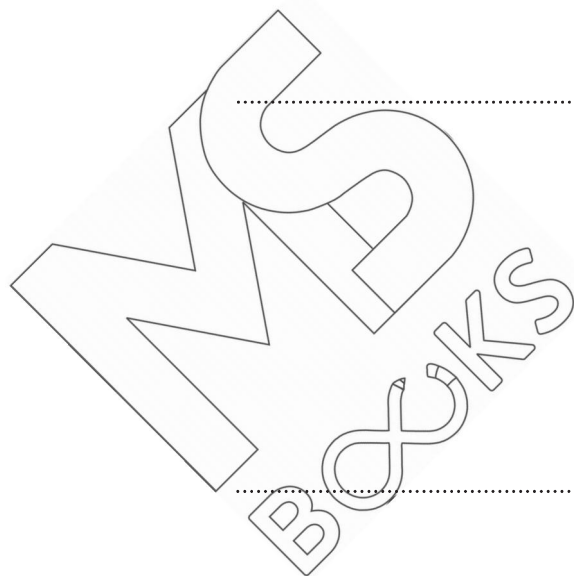
Q12/21/O/N/16

7 (a) Write $0.70 as a fraction of $5.60, giving your answer in its lowest terms.

.... [1]

(b) Write the recurring decimal $0.\dot{1}\dot{8}$ as a fraction in its lowest terms.
[$0.\dot{1}\dot{8}$ means $0.181818…$]

.... [2]

Q12/21/O/N/17

8 $\sqrt{5}$ -7 343 -11 0.4 2.5 $\frac{1}{3}$

From this list of numbers, write down

(a) a cube number,

.... [1]

(b) the smallest number,

.... [1]

(c) a natural number.

.... [1]

Q4/22/O/N/17

9 (a) 1 and 12 are factors of 12.

Write down all the other factors of 12.

.... [1]

(b) Write down the multiples of 9 between 20 and 40.

.... [1]

Q11/22/O/N/17

10 Write the recurring decimal $0.4\dot{8}$ as a fraction.
Show all your working.

.... [2]

Q1/21/M/J/18

11 Write down a prime number between 20 and 30.

.... [1]

Q3/21/M/J/18

12 Write the recurring decimal $0.6\dot{3}$ as a fraction.

.... [1]

Q5/22/M/J/18

13   22   17   25   41   39   4

Work out the difference between the two prime numbers in the list above.

.... [2]
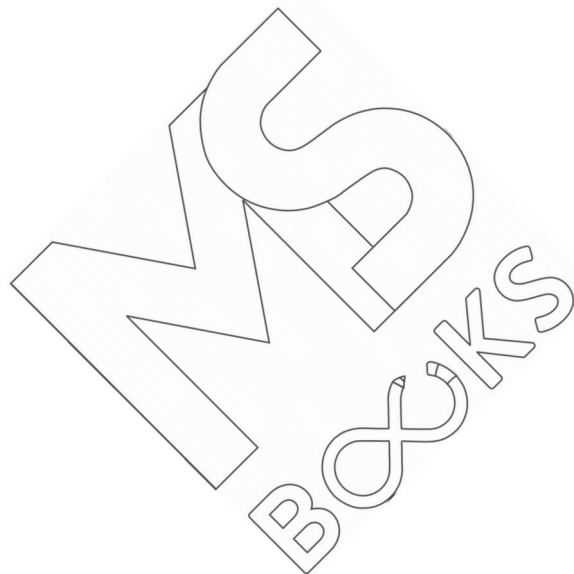
Q23/22/O/N/18

14 (a) Write 56 as a product of its prime factors.

.... [2]

(b) Find the lowest common multiple (LCM) of 56 and 42.

.... [2]

Q9/21/M/J/19

15 Write the recurring decimal $0.4\dot{7}$ as a fraction.
Show all your working.

.... [2]

Q12/21/M/J/19

16   27   28   29   30   31   32   33

From the list of numbers, write down

(a) a multiple of 7,

.... [1]

(b) a cube number,

.... [1]

(c) a prime number.

.... [1]

Q1/22/M/J/19

17   Write down a prime number between 50 and 60.

.... [1]

Q9/22/M/J/19

18   Find the highest common factor (HCF) of 90 and 48.

.... [2]

Q7/23/M/J/19

19   Here is a list of numbers.

     21        $\frac{2}{3}$ $\sqrt{13}$ 31 $\sqrt{121}$ 51   0.7

From this list, write down

(a)   a prime number,

.... [1]

(b)   an irrational number.

.... [1]

Q4/21/O/N/19

20   Write 15 060

(a)   in words,

.... [1]

(b)   in standard form.

.... [1]

Q15/22/O/N/14
1   *Answer.* **(a)** 2 × 3 × 3 × 5 **(b)** 630

Q17/21/M/J/15
2   *Answer.* **(a)** 2 × 3 × 5 **(b)** 90

Q9/22/M/J/15
3   *Answer.* $\dfrac{23}{90}$

Q5/23/O/N/15
4   *Answers:* **(a)** 12, 15   **(b)** 11, 13

Q6/21/M/J/16
5   *Answer.* 144

Q12/22/M/J/16
6   *Answer.* $\dfrac{11}{30}$

Q12/21/O/N/16
7   *Answers:* **(a)** $\dfrac{1}{8}$ **(b)** $\dfrac{2}{11}$

Q12/21/O/N/17
8   *Answers:* **(a)** 343 **(b)** −11 **(c)** 343

Q4/22/O/N/17
9   *Answers:* **(a)** 2, 3, 4, 6 **(b)** 27, 36

Q11/22/O/N/17
10   *Answer.* $\dfrac{48}{99}$

Q1/21/M/J/18
11   *Answer.* 23 or 29

Q3/21/M/J/18
12   *Answer.* $\dfrac{7}{11}$

Q5/22/M/J/18
13   *Answer.* 24

Q23/22/O/N/18
14   *Answers:* **(a)** $2^3 \times 7$ **(b)** 168

Q9/21/M/J/19   **Q 15**

9   47.77…− 4.77… oe

$\dfrac{43}{90}$

Q12/21/M/J/19   **Q 16**

12(a)   28

12(b)   27

12(c)   29 or 31

Q1/22/M/J/19   **Q 17**

1   53 or 59

Q9/22/M/J/19   **Q 18**

9   6

Q7/23/M/J/19   **Q 19**

7(a)   31 or $\sqrt{121}$

7(b) $\sqrt{13}$

Q4/21/O/N/19   **Q 20**

4(a)   Fifteen thousand [and] sixty

4(b) $1.506[0] \times 10^4$

Q10/22/O/N/19   **Q 21**

10      $67.\dot{7} - 6.\dot{7}$ oe

$\dfrac{61}{90}$

Q3/23/O/N/19   **Q 22**

3(a)   27

3(b)   47

Q4/23/O/N/19   **Q 23**

4   21

Q2/21/M/J/20   **Q 24**

2   15

Q7/21/M/J/20   **Q 25**

7      $2^5 \times 3^4 \times 13^2$

Q16/21/M/J/20   **Q 26**

16   1.8 or $1\dfrac{4}{5}$

Q2/22/M/J/20   **Q 27**

2   −5

Q4/22/M/J/20   **Q 28**

4(a)   Any square number greater than 10

4(b)   Any irrational number