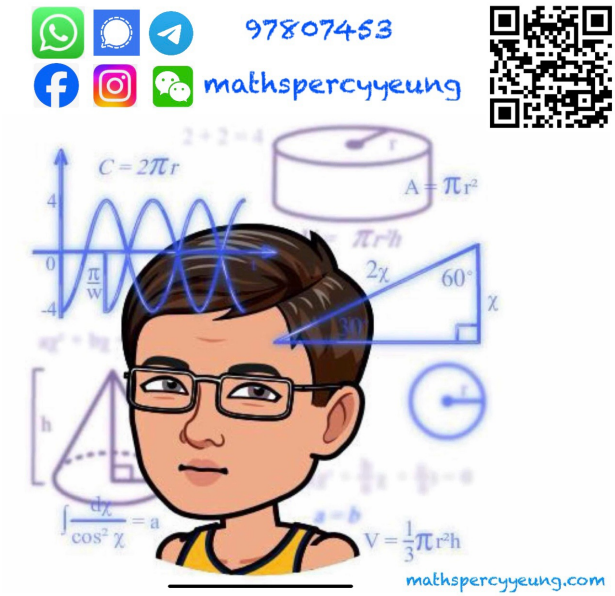
# GHS Sorted Past Paper - MC
# S1-01 Basic Mathematics

1. [20 - 21 S1 Final Exam - 07] (81%)

**7.** Find the L.C.M. of $2^2 \times 3^4 \times 5$ , $2^4 \times 3^2 \times 5^2$ and $2 \times 3^2$.

**A.** $2 \times 3^2$
**B.** $2 \times 3^2 \times 5$
**C.** $2^4 \times 3^4 \times 5^2$
**D.** $2^7 \times 3^9 \times 5^3$




2. [20 - 21 S1 Mid-year Exam - 01] (89%)

**1.** 15528 is divisible by which of the following integers?
**I.** 4
**II.** 6
**III.** 9

**A.** I and II only.
**B.** II and III only.
**C.** I and III only.
**D.** I, II and III.

3. [20 - 21 S1 Mid-year Exam - 02] (87%)

**2.** What is the L.C.M of 18, 26 and 78?
**A.** 26
**B.** 78
**C.** 234
**D.** 702

4. [21 - 22 S1 Final Exam - 01] (86%)

**1.** Find the L.C.M. of $2 \times 3^2$, $2^2 \times 3 \times 5^3$ and $3^3 \times 5$.

**A.** 3
**B.** $2 \times 3 \times 5$
**C.** $2^2 \times 3^3 \times 5^3$
**D.** $2^3 \times 3^6 \times 5^4$

5. [21 - 22 S1 Mid-year Exam - 01] (91%)

**1.** Which of the following integers is divisible by 6?

**A.** 80006
**B.** 77274
**C.** 72166
**D.** 60112

6. [21 - 22 S1 Mid-year Exam - 02] (37%)

**2.** Among all the factors of 780, how many of them are prime?

**A.** 3
**B.** 4
**C.** 5
**D.** 6

7. [21 - 22 S1 Mid-year Exam - 10] (74%)

**10.** Which of the following integers are divisible by both 8 and 9?

I. 327672
II. 588528
III. 670344

**A.** I and II only
**B.** I and III only
**C.** II and III only
**D.** I, II and III

8. [22 - 23 S1 Final Exam - 01] (90%)

**1.** Consider the 5-digit number $N = 23\ 4A6$, where $A$ is an integer from 0 to 9 inclusive. If $N$ is divisible by both 3 and 8, which of the following is a possible value of $A$ ?

**A.** 9
**B.** 8
**C.** 5
**D.** 3

9. [22 - 23 S1 Mid-year Exam - 01] (89%)

**1.** Which of the following is the prime factorization of $225$ ?

**A.** $3\times 75$
**B.** $9\times 5^2$
**C.** $3^2\times 25$
**D.** $3^2\times 5^2$

10. [22 - 23 S1 Mid-year Exam - 04] (92%)

**4.** Find the L.C.M. of $14$, $20$ and $35$.

**A.** 1
**B.** 70
**C.** 140
**D.** 420

11. [22 - 23 S1 Mid-year Exam - 15] (85%)

**15.** Consider the 7-digit number $Q = 263B410$, where $B$ is an integer from 0 to 9 inclusive. If $Q$ is divisible by 6, which of the following is a possible value of $B$ ?

**A.** 1
**B.** 2
**C.** 3
**D.** 4

12. [23 - 24 S1 Final Exam - 06] (80%)

**6.** Given that $x$ is a two-digit number, and a new number $y$ is created by reversing the tens and the unit digit of $x$. If $x$ and $y$ have common factors other than 1, which of the following is a possible value for $x$?

**A.** 16
**B.** 27
**C.** 32
**D.** 49

13. [23 - 24 S1 Mid-year Exam - 02] (84%)

**2.** Which of the following numbers is/are odd number factor(s) of 36?

I. 1
II. 4
III. 7

**A.** I only
**B.** II only
**C.** I and III only
**D.** II and III only

14. [23 - 24 S1 Mid-year Exam - 04] (85%)

**4.** Find the H.C.F. and the L.C.M. of $2^5 \times 3^8 \times 5$, $3^3 \times 5^4$ and $2^3 \times 3^6 \times 5^2$.

| | H.C.F. | L.C.M. |
|---|---|---|
| **A.** | $3^3 \times 5$ | $2^3 \times 3^3 \times 5$ |
| **B.** | $3^3 \times 5$ | $2^5 \times 3^8 \times 5^4$ |
| **C.** | $3^8 \times 5^4$ | $2^3 \times 3^3 \times 5$ |
| **D.** | $3^8 \times 5^4$ | $2^5 \times 3^8 \times 5^4$ |

15. [23 - 24 S1 Mid-year Exam - 17] (74%)

**17.** 167 ■5■ is a 6-digit number. If it is divisible by 6, which of the following is a possible value of ■?

**A.** 0
**B.** 1
**C.** 4
**D.** 8

16. [24 - 25 S1 Final Exam - 01] (85%)

**1.** The H.C.F of $2^{10} \times 3^{25}$, $2^{15} \times 3^{20}$, and $2^{15} \times 3^{15}$ is

**A.** $2^{10} \times 3^{15}$.
**B.** $2^{15} \times 3^{25}$.
**C.** $2^{10} \times 3^{20}$.
**D.** $2^{15} \times 3^{15}$.

17. [24 - 25 S1 Mid-year Exam - 01] (96%)

**1.** Which of the following is/are correct?

I. $-3$ is a natural number.
II. 0 is a whole number.
III. The product of any two even numbers must be even.

**A.** I only

**B.** II only

**C.** I and II only

**D.** II and III only

18. [24 - 25 S1 Mid-year Exam - 03] (81%)

**3.** The H.C.F. of $3^4 \times 5^2 \times 7^2$ and $2 \times 3^2 \times 7^3$ is

**A.** $3^2 \times 7^2$.

**B.** $3^4 \times 7^3$.

**C.** $2 \times 3^2 \times 5^2 \times 7^2$.

**D.** $2 \times 3^4 \times 5^2 \times 7^3$.

19. [24 - 25 S1 Mid-year Exam - 11] (86%)

**11.** 16♥♥6 is a 5-digit number. If it is divisible by both 6 and 8, which of the following is a possible value of ♥?

**A.** 4

**B.** 5

**C.** 6

**D.** 7

# GHS Sorted Past Paper - Conventional Questions
# S1-01 Basic Mathematics

1. [20 - 21 S1 Mid-year Exam - 02] (77%)

**2.** Find the L.C.M. of 16, 24 and 30 by using prime factorization. **(3 marks)**

2. [21 - 22 S1 Mid-year Exam - 09] (68%)

**9. (a)** Find the prime factorization of 306. **(2 marks)**
**(b)** It is given that $P = 2^2 \times 3 \times 5^2$. Find the L.C.M. of 306 and $P$. **(2 marks)**

3. [22 - 23 S1 Final Exam - 01] (56%)

**1.** Write down the H.C.F. and L.C.M. of $2^3 \times 3^2 \times 5$ and $2^2 \times 5^2$ in prime factorizations. **(2 marks)**

4. [22 - 23 S1 Mid-year Exam - 01] (75%)

**1. (a)** Find the prime factorizations of 18 and 42. **(2 marks)**
**(b)** Using the result of **(a)**, find the H.C.F. and L.C.M. of 18 and 42. **(2 marks)**

5. [22 - 23 S1 Mid-year Exam - 09] (80%)

**9.** Determine whether each of the following numbers is divisible by 4, 6, 8 or 9. Put a tick (✓) in the corresponding boxes if it is, and put a cross (✗) if it is not. The first one is done for you as an example. **(2 marks)**

| Number | Divisible by 4? | Divisible by 6? | Divisible by 8? | Divisible by 9? |
|---|---|---|---|---|
| 24 (example) | ✓ | ✓ | ✓ | ✗ |
| 1 642 168 | | | | |
| 3 577 194 | | | | |

6. [23 - 24 S1 Final Exam - 01] (73%)

**1.** Find the L.C.M. of 45 and 150 by prime factorization. **(2 marks)**

7. [23 - 24 S1 Mid-year Exam - 02] (85%)

**2.** Determine whether each of the following numbers is divisible by 4 or 9. Put a tick (✓) in the corresponding boxes if it is, and put a cross (✗) if it is not. The first one is done for you as an example. **(2 marks)**

| Number | Divisible by 4? | Divisible by 9? |
|---|---|---|
| **24 (example)** | ✓ | ✗ |
| **2 654 109** | | |
| **3 123 762** | | |
| **4 987 528** | | |

8. [23 - 24 S1 Mid-year Exam - 03] (67%)

**3.** **(a)** List out all prime factors of 360. **(1 mark)**
**(b)** Write down the prime factorization of 360 with index notation. **(1 mark)**
**(c)** Write down the H.C.F. and the L.C.M. of 360 and 75. **(2 marks)**

9. [24 - 25 S1 Final Exam - 07] (78%)

**7.** Find the L.C.M of 72 and 108 using prime factorization. **(2 marks)**

10. [24 - 25 S1 Mid-year Exam - 01] (65%)

**1.** Convert 2.04 into an improper fraction. _____ **(1 mark)**

11. [24 - 25 S1 Mid-year Exam - 03] (95%)

**3.** In each of the following, if the given number is divisible by 4 or 9, put a '✓' in the corresponding box; otherwise, put a '×'. **(2 marks)**

| Number | Divisible by 4 | Divisible by 9 |
|---|---|---|
| 264 (Example) | ✓ | × |
| 882 468 | | |
| 111 424 | | |

12. [24 - 25 S1 Mid-year Exam - 06] (70%)

**6.** **(a)** Express 24, 100 and 180 as a product of prime factors in index notation.

**(b)** Find the H.C.F. and the L.C.M. of 24, 100 and 180 by prime factorization.

**(5 marks)**

13. [21 - 22 S1 Mid-year Exam - 13] (33%)

**13.** Samantha got a raffle ticket and the two sides of it are shown below. She could have a prize if the ticket number is a multiple of 4. Could she get the prize? Explain your answer. **(4 marks)**

Raffle Ticket 2021

**No: *387B65BB***

*Let HOPE be the ANCHOR of our lives*

**Checking Instruction**

A number can be found by subtracting the sum of $y$ and the square of $x$ from $z$. It is given that $z$ is the number of days in the year 2021, $y$ is the number of days in February of 2021 and $x$ is the largest negative integer. ***B*** is the last digit of this number.