Year 7 TERM 1 EXAMINATION

Student ID   :

Student Name   :

Subject Code & Name	: Mathematics
Semester & Year	: Term 1, 2022
Lecturer/Examiner	: James Sim Chow Chein
Duration	: 1 Hour and 30 Minutes

INSTRUCTIONS TO CANDIDATES

1. **This question paper consists of EIGHT (8) section questions:**
   i.   **Students are required to answer ALL SECTIONS.**
2. **Study the "REQUIRED" section of each question carefully. Then extract the data required for your answers from the information supplied.**
3. **Write your answers in blue or black ink/ballpoint. You can only use pencil for graphs, charts, diagrams, etc.**
4. **Begin your answer to each question on a new page.**
5. **All answers must be correctly numbered but need not be in numerical order.**
6. **Workings must be shown.**
7. **You CANNOT use a calculator at all, working and steps must be shown.**
8. **Marks may be lost through lack of neatness and poor presentation**
9. **Candidates are not allowed to bring any unauthorized materials except writing equipment into the Examination Hall. Electronic dictionaries are strictly prohibited.**
10. **This question paper must be submitted along with all used and/or unused rough papers and/or graph paper (if any). Candidates are NOT allowed to take any examination materials out of the examination hall.**

A. <u>Solve the following problems.</u>

1. $-2 + (+3) =$

2. $-3 - (-4) =$

3. $45 - (-27) =$

4. $-5 + (+4) =$

5. $24 \div (-6) =$

6. $5 \times (-18) =$

7. $-7 \times 9 =$

8. $-42 \div (-6) =$

(8 marks)

B. <u>Use order of operations to solve the following problems.</u>

9. $18 - (-12 - 3) =$

10. $24 + (-7) \times (32 - 6) =$

11. $20 + (-4) \times (30 \div 6) =$

12. $-21 \div 7 + 2 \times (8 + -4) =$

(8 marks)

C. <u>Solve the following word problems using positive and negative numbers.</u>

13. Find the difference in height between the top of a hill 973 feet high and a crack caused by an earthquake 79 feet below sea level.

14. In Detroit the high temperatures in degrees Fahrenheit for five days in January were -12°, 8°, -3°, 6°, -15°. What was the average temperature for these five days?

(4 marks)

D. <u>List all the numbers which are multiples of the given number.</u>

15. 6

    24   60   18   30   26   35   90   102   120

16. 9

    81   144   8200   516   900   621   1035   297   95   1324   300

(2 marks)

E. List all the factors of the following numbers:

Here is an example of how to answer the questions:

36

1 × 36

2 × 18

3 × 12

4 × 9

6 × 6

The factors of 36 are: 1, 2, 3, 4, 6, 9, 12, 18 and 36.

17. 40   18. 52
(4 marks)

F. List all the Prime Numbers from the following list:

19. 36, 11, 7, 39, 37, 82, 2, 75, 51, 59, 81, 67, 63, 19, 97, 57
(2 marks)

G. Complete these calculations using your knowledge of square numbers and square roots.

20. $7^2 - 3^2 =$ 22. $4^2 + \sqrt{25} =$
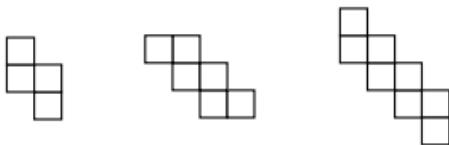
21. $\sqrt{36} - \sqrt{16} =$ 23. $\sqrt{144} \div \sqrt{9} + 2^2 \times 9^2$
(8 marks)

H. The questions below are about Patterns and Sequences.

22.   a) Draw the next two patterns in the sequence.

b) Write down the sequence of the numbers of squares.

c) Write down the term-to-term rule.
(4 marks)

END OF PAPER