



Private & Confidential

**Year 9 TERM 1 EXAMINATION**

Student ID : 

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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.

**WARNING:** EC Global Academy regards cheating as a most serious offence and will not hesitate to mete out the appropriate punitive actions according to the severity of the offence committed, and in accordance with the clauses stipulated in the Students' Handbook, up to and including expulsion from EC Global Academy

A. Solve the following problems.

1.  $-2.4 + (+7.3) =$

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

2.  $-3.7 - (-4.6) =$

6.  $5.5 \times (-18) =$

3.  $45 - (-27) =$

7.  $-7 \times 9 =$

4.  $-5.48 + (+4.6) =$

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

(8 marks)

B. Use order of operations to solve the following problems.

9.  $18.5 - (-12.1 - 3.8) =$

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

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

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

(8 marks)

C. Solve the following word problems using positive and negative numbers.

13. Find the difference in height between the top of a hill 973.48 feet high and a crack caused by an earthquake 79.63 feet below sea level.

14. Use the values given to work out the value of each expression.

$p = 8.5$                    $q = 3.5$                    $r = -4.5$

a)  $q + (p - r)$

b)  $(r - q) \times 2$

15. In Detroit the high temperatures in degrees Fahrenheit for five days in January were -  
12.14°, 8.43°, -3.08°, 6.64°, -15.74°. What was the average temperature for these five days?

(8 marks)

D. Read the statement on the right. Write a similar statement for each root.

16.  $\sqrt{150}$

17.  $\sqrt{513.4}$

18.  $\sqrt[3]{326}$

(3 marks)

E. Give your answer in the form  $\frac{1}{a^b}$ , where a and b are positive integers:

19.  $12^{-1}$

21.  $5^{-3}$

20.  $7^{-2}$

22.  $3^{-6}$

(4 marks)

F. Simplify the following:

23.  $4a^3 \times 7a^2 =$

26.  $2m^3 \times 9m^4 =$

29.  $18a^8 \div 6a^2 =$

24.  $5b^6 \times 3b^3 =$

27.  $15y^{10} \div 3y^4 =$

30.  $12x^8 \div 4x^6 =$

25.  $8x^9 \times 7x^3 =$

28.  $8b^7 \div b =$

31.  $8y^6 \times 3y^2 \div 4y^3 =$

(9 marks)

G. Solve the following equations.

12.  $3^x = 81$

14.  $3^{x-1} \times 9 = \frac{1}{27}$

13.  $4^x = 32$

15.  $4^{2x+1} = 8^{2x-1}$

(6 marks)

H. Here are the first five terms in a number sequence.

7 10 13 16 19

22. a) Find the 10<sup>th</sup> term in this number sequence.

b) Write an expression, in the terms of n, for the nth term of this number sequence.

(4 marks)

**END OF PAPER**