



Nulla Vestigia Retrorsum  
ADVANCE LIVINGSTONE

# LIVINGSTONE HIGH SCHOOL

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## Instructions to the learner:

1. This paper consists of 3 questions.
2. **Calculators may not be used.**
3. It is in your own interest to write neatly and legibly (in blue/black ink).
4. All calculations needs to be shown, unless otherwise stated.

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Moderators: Mr. R Jugmohan  
and Mr. N Gamielien

**Grade 8**  
**Marks: 50**

**Controlled Test 1**

**March 2014**  
**Time: 1 Hour**

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## **Question 1**

1.1 Are the following statements true or false?

1.1.1 All integers are whole numbers.

1.1.2 The sum of any two negative numbers is negative.

1.1.3 The sum of two prime numbers may be prime.

1.1.4  $\sqrt[3]{-27}$  is an integer.

1.1.5  $\sqrt{9 \times 2} = \sqrt{9} + \sqrt{2}$  (5)

1.2 Replace \* with >, < or = so that each of the following sentences are true.

1.2.1  $5 * \sqrt[3]{8}$

1.2.2  $-8 * -9$

1.2.3  $-8+4 * -1 \times 2 \times -2$  (3)

[8]

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## Question 2

2.1 You are given the information:

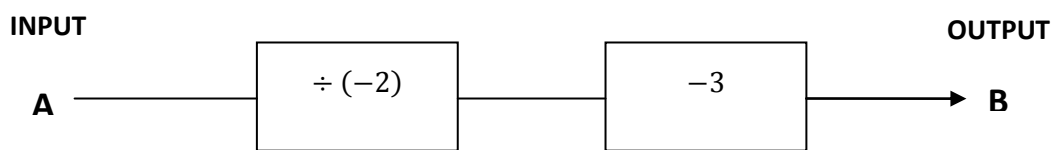
$$420 \quad \text{and} \quad 450 = 2 \times 3^2 \times 5^2$$

- 2.1.1 Write 420 as products of its prime factors. (2)
- 2.1.2 Determine the highest common factor (HCF) of 420 and 450. (2)
- 2.1.3 Write down the smallest natural number that should be multiplied by 450 to create a perfect cube. (2)
- 2.2 With reference to  $A = \{ -7; 3; -9; -2; 4; 2; -1; 0 \}$
- 2.2.1 Write the integers of  $A$  in ascending order. (2)
- 2.2.2 Find the integers in  $A$  which satisfy the inequality  $-5 \leq x \leq 1$ . (2)
- 2.3 Given the expression:  $2 + (3 \times 4 + 20) \div 2 + 3 \times 2$
- 2.3.1 How many terms are there in the above expression? (1)
- 2.3.2 Simplify the expression as far as possible. (3)
- 2.4 Simplify as far as possible:
- 2.4.1  $(-4) + (+2) + (-1)$  (2)
- 2.4.2  $(-5) - (+9) - (-10)$  (2)
- 2.4.3  $7 - (5) - 6 + (-2)$  (2)
- 2.4.4  $-6(-7)$  (1)
- 2.4.5  $4(-1)(+3)(+1)$  (1)
- 2.4.6  $(2 - 5)(1 - 3) + 2(-3)$  (2)
- 2.4.7  $\frac{-2+3 \times (-4)}{-5-2}$  (2)
- 2.4.8  $-1 + 6 - 20 + 58 - 66 - 78 + 12 - 49 + 97$  (3)

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**Question 3**

- 3.1 Complete: The sum of a number and its \_\_\_\_\_ is always zero. (1)
- 3.2 Subtract...  $(5 - 2)$  from  $(3 - 7)$  (2)
- 3.3 Add....  $(3 - 7)$  to  $(2 - 5)$  (2)
- 3.4 Ameera and Ammaarah set their alarms for 6am. Ameera's alarm snoozes for 6 minutes and Ammaarah's for 8 minutes. At what time will their alarms go off simultaneously for the third time. (3)
- 3.5 Study the flow diagram below and answer the questions that follow:



- Determine the value of:
- 3.5.1 B if  $A = 15$  (2)
- 3.5.2 A if  $B = 15$  (1)
- 3.6 After doing all his shopping, your friend realises he has gone into overdraft and his bank balance is  $-R\ 2\ 700,00$ . A Week later he deposits a sum of money and his account balance is then  $R2\ 300$ . How much money did he deposit into his account? (2)
- [13]**

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**Total: 50**