BUKIT SION MIDDLE SCHOOL

NATIONAL PLUS

MID SEMESTER 1 EXAMINATION *Where the abundance in life flows……..*

Subject : MATHEMATICS **Grade: 7 - ……**

Day/date:…… **Name: ……**

ADDITIONAL MATERIALS:

Kertas Ulangan for work/calculation

GENERAL INTRUCTIONS:

1. **Write your name** in all of the papers you hand in.
2. **Read carefully** the instructions for each section.
3. Answer **all** questions.
4. **DO NOT USE A CALCULATOR.**
5. **For Section A**, write your answers on the space provided in the question paper.

   For Section B and C, write **ALL** your working and answers on a

   SEPARATE SHEET of paper (Bukit Sion Test Paper).

   Marks may be deducted if necessary working is not shown/clear.
6. The number of marks is given in brackets [] in each section and/or at the end of the question.
7. **DO NOT TURN THIS PAGE UNTIL YOU ARE TOLD TO DO SO.**

For Teacher's Use	
Section A	**/ 25**
Section B	**/ 30**
Section C	**/ 25**
TOTAL	**/ 80**

SECTION A: CONCEPTS [25 MARKS]

I. MULTIPLE CHOICE

Write the letter of your choice in the table provide below.

1.	4.	7.	10.	13.
2.	5.	8.	11.	14.
3.	6.	9.	12.	15.

1. The square root of $2^2 \times 3^4 \times 5^2$ is:

(a) $2^2 \times 3 \times 5$ (b) $2 \times 3 \times 5$ (c) $2 \times 3^2 \times 5$ (d) $2 \times 3^2 \times 5^2$

2. What is the prime factorization of 144?

(a) 12×12 (b) 15×8 (c) $2^2 \times 3^2$ (d) $2^4 \times 3^2$

3. Which of the following statements on divisibility is TRUE?

(a) 92,764 is divisible by 9 because 9+2+7+6+4 = 27

(b) 92,764 is divisible by 4 because 64 can be divided by 4.

(c) 92,764 is divisible by 8 because 64 can be divided by 8.

(d) 92, 764 is divisible by 6 because it is even and 9+2+7+6+4 = 27.

4. How many significant figures does 0.003450 have?

(a) 4 (b) 3 (c) 6 (d) 7

5. Which number below is a perfect square?

(a) 28 (b) 25 (c) 18 (d) 27

6. The following numbers are divisible by 11, EXCEPT:

(a) 17,732 (b) 3773 (c) 989 (d) 3,896,035

7. What must be the value of * to make the number 6,5*8 divisible by 9?

(a) 9 (b) 8 (c) 7 (d) 6

8. The reciprocal of $4\frac{2}{3}$ is:

(a) $4\frac{3}{2}$ (b) $3\frac{4}{2}$ (c) $\frac{14}{3}$ (d) $\frac{3}{14}$

9. Which of the following is equivalent to $\frac{5}{12}$?

(a) $\frac{50}{100}$ (b) $\frac{15}{48}$ (c) $\frac{25}{60}$ (d) $\frac{10}{22}$

10. Which number below is a prime number?

(a) 97 (b) 87 (c) 57 (d) 27

11.Which of the following is a rational number?

(a) $\sqrt{-4}$ (b) π (c) 1.234567… (d) -1/ 10

12. The number 5.88974 when rounded correct to 4 significant figures is:

(a) 5.890 (b) 5.89 (c) 5.8900 (d) 5.900

13. Which of the following is NOT an integer?

(a) $^{-35}/_{7}$ (b) $-\sqrt{9}$ (c) -10 (d) -0

14. The improper fraction of $12\ ^{5}/_{6}$ is:

(a) $\frac{65}{5}$ (b) $\frac{65}{6}$ (c) $\frac{77}{5}$ (d) $\frac{77}{6}$

15. Numbers which are also called as counting numbers are:

(a) Natural numbers (c) Whole numbers

(b) Rational numbers (d) Integers

II. COMPARING AND ORDERING

1. Arrange 3×2^2, $\sqrt{2^4\times 5^2}$, $\sqrt{1296}$, $\sqrt[3]{4096}$ in ascending order. [3]

Answer: _____

2. Compare using >, < or =.

$12\ ^4/_5$ _____ $12\ ^{27}/_{50}$ _____ $12\ ^7/_{10}$ [2]

III. MATCHING TYPE

Match the rational form in Column B and the decimals in Column A.

Write your answers on the space provided before each number.

		COLUMN A		COLUMN B
_____	1.	4/11	(a)	0.36
_____	2.	9/25	(b)	$0.3\overline{6}$
_____	3.	11/30	(c)	$0.\overline{36}$

IV. ROUNDING OFF

Round off the following as indicated:

1. 285.94 (correct to one decimal place) _____
2. 2.8903 (correct to 2 significant figures) _____

SECTION B: CALCULATION [30 MARKS]

Answer this section on a separate sheet of paper.
Show ALL working. Marks may be deducted if necessary working is not shown.

1. (a) Write down **ALL** the prime numbers between 50 and 70. [2]

   (b) Find **the sum** of the prime numbers in (a). [2]

2. Find the **square root** of 1936 using its **prime factorisation**. [4]

3. (a) Find the **GCF** and **LCM** of 64, 36, and 72 using the **Continuous Division method**. [4]

   (b) Find the **HCF** and **LCM** of 3×5^2, $2^3 \times 5^2$ and $2^7 \times 5$, leaving your answers **in indices/exponents form.** [2]

4. Using the BODMAs Rule, solve the following:

   (a) $5 + 6 \times 4 - 12 \div 4$ [2]

   (b) $5^2 - [\, 2^3 + (187 \div 11)]$ [3]

5. Do the operations as indicated. Reduce answers to lowest terms.

   (a) $^3/_5 \quad - \quad ^1/_{10} \quad + \quad ^3/_4$ [2]

   (b) $4\ ^2/_3 \times 6\ ^2/_3$ [2]

   (c) $7 \quad \div \quad 2\ ^4/_5$ [2]

   (d) $9.5 \quad + \quad 2.4 \quad \times \quad 4.5$ [2]

   (e) $\left(\frac{4.8 \times 0.06}{0.04}\right)^2$ [3]

SECTION C: WORD PROBLEMS [25 MARKS]

Read each problem below and solve on a *SEPARATE SHEET OF PAPER*.
Show *ALL* working as clearly and neatly as possible.
Marks may be deducted if necessary working is not shown.

1. Mark is $3\frac{7}{12}$ inches taller than Michael. If Michael is $55\frac{1}{2}$ inches tall,

   (a) determine Mark's height, [2]

   (b) find the sum of their heights. [1]

2. A piece of ribbon is $10\frac{3}{8}$ m long.

   If 3 small pieces of ribbon, each of length $2\frac{5}{12}$ m are cut off,

   find the length of the remaining piece. [3]

3. Three clocks alarm every 15 minutes, 25 minutes and 40 minutes respectively.

   (a) After how many minutes will they all alarm together? [2]

   (b) At what time after 1:00 PM will they alarm simultaneously? [2]

4. Mr and Mrs Smith together earn a total of $25,000, monthly.

   they spend 2/5 of the salary on food, ¼ of their salary for rent and bills,

   3/10 of it for education and recreation, and save the rest.

   (a) How much does the family spend for food? [2]

   (b) How much is spent for rent and bills? [2]

   (c) How much is saved every month? [2]

   (d) How much more is spent on food **than** on rent and bills? [1]

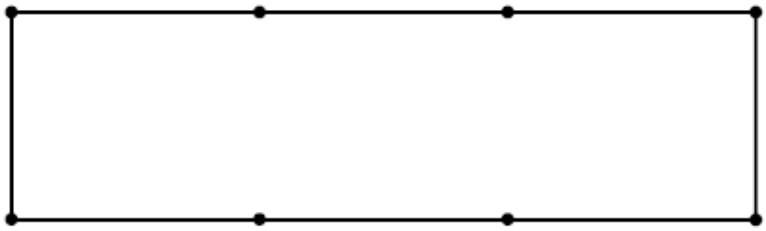
5. A pair of pants costs P375.85 and a shirt costs P125.50 less than the price of pants.

How much will be spent in all for 3 shirts and 2 pairs of pants? [4]

6. Maria has eight rods each of length 10 cm, correct to the nearest centimetre.

(a) Write the **upper** and **lower** boundaries of the length of one rod. [2]

She places them in the shape of a rectangle, three rods long and one rod wide.



(b) Write down the **minimum length** of the rectangle. [1]

(c) Calculate the **minimum area** of the rectangle. [1]

END OF EXAM