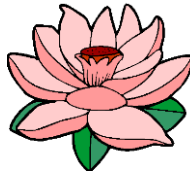


SAMPLE QUESTION PAPER

NSM GURUCOOL MATHATHON 2017 WISHWIN

Level 3: Grades 6, 7, 8



(December 16, 2017)

Student Name:

Grade:

Note:

- 1) Write your name on all the sheets
- 2) Calculators are not allowed during the competition.
- 3) All units should be labelled.
- 4) All solutions should be simplified unless specified otherwise.
- 5) Please hand over your working sheet along with your answer sheets.

Student Name: **Exam duration: 1 hour** **Grade:**
MATHATHON 2017 - Sample Question Paper
(Level 3: Grades 6, 7, 8)

Section 1: Rapid Math: For each problem solve the problem and write the correct answer.

- 1) Solve for X, where $X = -7 - (-7) + 8$; $X = \underline{\hspace{2cm}}$
- 2) The circumference of a circle is 16π . What is the radius of the circle?

Section 2: Solve each problem below.

- 3) What is $100(100 - 3) - (100 \times 100 - 3) = ?$
 - (i) $-20,000$
 - (ii) $10,000$
 - (iii) -297
 - (iv) -6
- 4) X is the midpoint of the straight line YZ where Y and Z are the start and end points.

$$XY = 3b - 9; XZ = 8b - 29; \text{ What is } YZ = ?$$

- i) 29
- ii) 9
- iii) 8
- iv) 6

Section 3: Read each problem below and solve it.

5) On a certain plane, the rows are numbered from 1 to 25, but there is no row number 13. Row number 15 has only 4 passenger seats; all the other rows have 6 passenger seats. How many seats for passengers are there on this plane?

- i) 138
- ii) 142
- iii) 144
- iv) 150

6) The sum of the digits of a seven-digit number is 6. What is the product of these digits?

- i) 0
- ii) 6
- iii) 7
- iv) $1 \times 2 \times 3 \times 4 \times 5 \times 6 \times 7$

Section 4: Read each problem below and solve it.

7) Maya attended two meetings during her 9-hour work day. The first meeting took 45 minutes and the second meeting took twice as long. What percent of her work day was spent attending meetings?

- (i) 15
- (ii) 20
- (iii) 25
- (iv) 30

8) Mike, Seth, and Dirk are basketball players. Seth made 3 out of 4 shots, Mike made 8 out of 11 shots, and Dirk made 5 out of 5 shots. Order the players by their basketball shooting percentage from least to greatest.

- i) Dirk, Seth, Mike
- ii) Seth, Mike, Dirk
- iii) Mike, Dirk, Seth
- iv) Mike, Seth, Dirk

Section 5: Analytical and Critical thinking problems

9) $2\left(1 - \frac{1}{2}\right) + 3\left(1 - \frac{1}{3}\right) + 4\left(1 - \frac{1}{4}\right) + \dots + 10\left(1 - \frac{1}{10}\right) =$

- i) 40
- ii) 45
- iii) 50
- iv) 55

10) A cell phone plan costs \$20 each month, plus 5 cents per text message sent, plus 10 cents for each minute used over 30 hours. In January, Mili sent 100 text messages and talked for 30.5 hours. How much did she have to pay?

11) At West Plano High School, 30% of the students in the Math Club are in the Science Club, and 80% of the students in the Science Club are also in the Math Club. There are 15 students in the Science Club. How many students are in the Math Club?

- i) 42
- ii) 40
- iii) 38
- iv) 36

12) X-Box One S costing \$189 was on sale during Thanksgiving with a 10% off at X.com. There was an additional \$50 off on black Friday. If Tom orders it on black Friday, with a shipping fee of \$10, how much does he pay for the X-Box One S?