FIRST TERM EXAMINATION
SUBJECT: MATHEMATICS
CLASS: JHS 2
2 hours
SECTION B
[60 marks]
Answer only four questions from this section.

1. (a) Write these numerals in words.
   (i) 2,408,321
   (ii) 10567451

   (b) Skip count in 500s up to the fifth number.
   (i) 1,800,000, ____, ____, ____, ____, ____
   (ii) 700,000, ____, ____, ___, ___, ____,

   (c) Find the H. C. F. of 42 and 36

2. (a) There are 80 farmers in a certain village who grow maize and rice or both. Out of the 80 farmers, 50 grow maize and 60 grow rice.
   (i) Represent the information on an venn diagram.
   (ii) If x of them grow both crops, write on equation in x and solve forit.

   (b) Use the partitioning or expanded form to subtract 37.85 ffrom 193.60

   (c) List the prime products of 2700.

3. (a) Kofi bought 8 note books at GH¢12.00 each. Ama bought 12 pens at GH¢5.00 each. How much altogether they spend on the items?

   (b) Solve these equations.
   (i) $\frac{1}{27} = 3^x$
   (ii) $22^x = 16$

   (c) Simplify the following:
   (i) $\frac{3}{4} \div \frac{5}{8} + \left(\frac{4}{5} - \frac{1}{2}\right)$

   (ii) $\left(\frac{3}{4} + \frac{5}{8}\right) x \frac{4}{11} - \frac{1}{2}$

4. (a) The diameter of a wawa tree is currently 10 inches when it is measured at chest height. After 50 years, the diameter is expected to increase by an average growth of $\frac{2}{5}$ inch per year. The equation $y = \frac{2}{5}x + 10$ gives you y, the diameter of the tree in inches, after x years.
   (i) Copy and complete the table below

X (years)	0	10	20	30	50
Y (diameter in inches)					

(ii) On a graph sheet, draw perpendicular axes ox and oy.

two

(ii)   Using a scale of 2cm to 5 unit on the y-axis and 2cm to 10 unit on the x-axis, mark ox axis from 0 to 60 and oy-axis from 0 to 40

(b)   Plot the points and Join them with a straight line.

(c)   From your graph, what will be the diameter of the tree in 50 years?

5.   (a)   Simplify the following:
    (i) $\dfrac{3a+5b}{4} + \dfrac{a+b}{8}$

    (ii) $\dfrac{2x}{6} + \dfrac{2x-3y}{3} - \dfrac{x+y}{2}$

    (b)   Expand these expressions
    (i) $3(x + 4) - 2(x - 5)$
    (ii) $2(6 - 5x) - 3(2 + 2x) - 4(3x - 1)$

    (c)   The ratio of boys to girls in a school is 12:25. If there are 120 boys,
    (i)   how many girls are in the school?
    (ii)   what is the total number of boys and girls in the school?

SECTION A
Answer all questions from this section.

1.   Write two million, four hundred and eight thousand, three hundred and twenty-one in figures.
    A.   2,408,321
    B.   240,081,321
    C.   2,040,832
    D.   2,408,302

2.   Write 8765049 in standard form
    A. 8.765049×10^6
    B. 87.65049×10^6
    C. 8.765049×10^{-6}
    D. 8765649×10^6

3.   Express 975.867470 to three decimal places.
    A.   975.870
    B.   975.8675
    C.   975.867
    D.   975.8678

4.   Identify the set of perfect square numbers from 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18,….
    A.   {16, 12, 15}
    B.   {4, 9, 16}
    C.   {6, 8, 10}
    D.   {16, 17, 18}

5.   What is the square root of 225?
    A.   -15   B.   25
    C.   15   D.   -25

6.   List the factors of 42.
    A.   {1, 2, 3, 6, 7, 14, 21, 42}
    B.   {1, 2, 3, 7, 14}
    C.   {1, 7, 21, 42}
    D.   {1, 2, 3, 6, 7, 8, 14, 21, 42}

7.   A = {old numbers less than 10}
    B = {counting numbers less than 10}.
    Find A ∩ B.
    A.   {1, 2, 3, 4, 5, 6, 7, 8, 9}
    B.   {1, 3, 5, 7, 9}
    C.   {3, 5, 7}
    D.   {1, 2, 4, 6, 7, 9}

8.   Find the sum of 89085 and 76329
    A.   184148   B.   166404
    C.   165414   D.   165144

9.   Mrs. Yaboi bought 25.25 meters of cloth for her five children. If they share the material equally, how many metres of cloth did each receive?
    A.   5.005   B.   5.0005
    C.   5.0   D.   5.05

10.   Simplify $15^9 \div 15^7$

A. 30   B. 63
C. 240   D. 225

11. If $2^{2x} = 8$ find x.
    A. $\frac{2}{3}$ B. 1

    C. $\frac{3}{2}$ D. 2

12. If $n^2 + 4 = 40$, find n.
    A. 6   B. 18
    C. 22   D. 44

14. Determine the area of a rectangle whose sides measure $1\frac{1}{3} cm$ by $3\frac{3}{4} cm$
    A. $15 cm^2$ B. $3\frac{3}{4} cm^2$
    C. $5 cm^2$ D. $\frac{61}{12} cm^2$

15. Faako answers 42 out of 60 questions correctly. What percentage of her answers are correct?
    A. 70%   B. 42%
    C. 18%   D. 60%

16. Which of the following fractions is the greatest? $\frac{1}{6}, \frac{1}{4}, \frac{1}{2}. \frac{1}{3}$
    A. $\frac{1}{6}$ B. $\frac{1}{4}$
    C. $\frac{1}{3}$ D. $\frac{1}{2}$

17. Out of GH¢550,000.00 given to a school, an amount of GH¢325000.00 was used. What fraction of the total was used?
    A. $\frac{4}{13}$ B. $\frac{9}{13}$

    C. $\frac{9}{22}$ D. $\frac{13}{22}$

18. Simplify $\frac{1}{3} + \frac{1}{9} + \frac{1}{27}$
    A. $\frac{5}{27}$ B. $\frac{2}{27}$

    C. $\frac{11}{27}$ D. $\frac{13}{27}$

19. Find the gradient from the equation of the straight line $y = -3x + 12$.
    A. 3   B. -3
    C. 12   D. -12

20. Find the gradient of the line which passes through the point A(-1, 2) and B(6, -3)
    A. $-\frac{5}{7}$ B. $-\frac{7}{5}$

C. $\frac{5}{7}$ D. $\frac{7}{5}$

21. A man has three children whose ages are 9 years, 12 years and 15 years. Find the ratio of their age.
    A. 5:4:3   B. 1:3:5
    C. 4:5:3   D. 3:4:5

22. Given that 1:3 = x:21. Find the value of x.
    A. 4   B. 5
    C. 7   D. 63

23. The sum of the ages of a man and his wife is 81 years. The ratio of their ages is 5:4. Find the age of the younger person.
    A. 45 years   B. 36 years
    C. 51 years   D. 30 years

24. Dede and Korkor share GH¢6000.00 between them in the ratio 3:2. Find Dede's share.
    A. GH¢200.00
    B. GH¢240.00
    C. GH¢360.00
    D. GH¢3600.00

25. If 26039 pineapples are shared equally among thirteen men, how many pineapples each man receive?
    A. 23   B. 203
    C. 230   D. 2003

26. Find the equation of a line with slope 2 and y – intercept -3.
    A. y = 2x - 3
    B. y = 2x + 3
    C. y = -2x + 3
    D. y = -2x - 3

27. If 6:8 = r:48, find the value of r
    A. 36   B. 34
    C. 14   D. 12

28. Expand $-5x(3x + 4)$
    A. $15x^2 – 12x$
    B. $-15x^2 – 20x$
    C. $15x^2 + 12x$
    D. $-15x^2 + 20x$

29. Simplify $6(7a + 4) -3(8a + 9)$
    A. $18a – 3$ B. $18a + 51$
    C. $42a – 27$ D. $66a - 3$

30. Expand $2(3y + 22)$
   A. $6y + 22$ B. $5y + 42$
   C. $6y + 42$ D. $10y2$

31. Simplify $7x + 7y^2 - 4x + 7y^2$
   A. $11x + 14y^2$
   B. $-3x + 14y^2$
   C. $14y^2 - 3x$
   D. $3x + 14y^2$

32. Simplify $3(6b - 9a) + 7(6a - 5)$
   A. $14b + 6a$ B. $17b - 6a$
   C. $17b + 48a$ D. $15a - 1 + b$

33. Evaluate $3q \times 12pq$
   A. $15pq^2$ B. $36pq^2$
   C. $15p^2q$ D. $36p^2q^2$

34. Factorize completely $3ax + 6ay$
   A. $3a(x + 2y)$
   B. $3ax(1 + 6ay)$
   C. $3(ax + 6a)$
   D. $3a(x + 6y)$

35. Given that $x = 2, y = -2$. Find the value
   of $5x + 7y^2 - 3x$
   A. -32 B. -22
   C. 36 D. 32

36. Factorize $4xy - 16x + 10y - 40$
   A. $(y + 4)(4x - 10)$
   B. $(y - 4)(4x + 10)$
   C. $(4 - y)(10 - 4x)$
   S. $(y + 4)(4x + 10)$

37. Determine the y – intercept from the
   equation $y = -\frac{1}{2}x - 2$.
   A. $(0, -2)$ B. $(0, 2)$
   C. $(2, 0)$ D. $(-2, 0)$

38. Covert 1.2g to kilometer.
   A. 120km B. 1200km
   C. 12km D. 1.2km

39. If 5 boys took 14 days to cultivate a piece
   of land, how long will it take 7 boys
   working at the same rate, to cultivate the
   land?
   A. 14 days B. 12 days
   C. 8 days D. 10 days

40. A car uses 150 litres of petrol in 45 mins.
   How many litres of petrol will it use in 1
   hour?
   A. 375 litres B. 230 litres
   C. 200 litres D. 225 litres