

maths

JHS 3 | Mathematics | First Term — 2025-2026 | Duration: 60 minutes | Total Marks: 103

Instructions:

SECTION A — MULTIPLE CHOICE QUESTIONS

1. What is the name for a triangle with all sides equal? (1 mark)
 - A. Isosceles
 - B. Scalene
 - C. Equilateral
 - D. Right-angled
2. Find the equation of a line with slope $\frac{2}{3}$ passing through (3 (1 mark)
 - A. -1).
 - B. $y = (\frac{2}{3})x + 1$
 - C. $y = (\frac{2}{3})x - 3$
 - D. $y = (\frac{2}{3})x - 1$
3. Solve the equation $2x - 3 = 15$. (1 mark)
 - A. 6
 - B. 7
 - C. 8
 - D. 9
4. If you answer 80% of 20 questions correctly (1 mark)
 - A. how many did you answer correctly?
 - B. 12
 - C. 14
 - D. 16
5. Under PNDC Law 247 (1 mark)
 - A. what is the total SSNIT contribution rate?
 - B. 13.0%
 - C. 18.5%
 - D. 17.5%
6. Which data collection method involves asking people questions? (1 mark)
 - A. Observation
 - B. Experiment
 - C. Interview
 - D. Database

7. Calculate 5.2×100 . (1 mark)
- A. 0.052
 - B. 5.2
 - C. 52
 - D. 520
8. What is the volume of a cube with side 3cm? (1 mark)
- A. 9cm^3
 - B. 18cm^3
 - C. 27cm^3
 - D. 36cm^3
9. Which property is shown by $a \times (b + c) = (a \times b) + (a \times c)$? (1 mark)
- A. Commutative
 - B. Associative
 - C. Distributive
 - D. Identity
10. Simplify $5x + 3x$. (1 mark)
- A. $8x$
 - B. $8x^2$
 - C. $15x$
 - D. $15x^2$
11. If total cost (t) is proportional to the number of items (n) at constant price (p) (1 mark)
- A. the equation is?
 - B. $t = n/p$
 - C. $t = p/n$
 - D. $t = pn$
12. What type of fraction is $7/4$? (1 mark)
- A. Proper
 - B. Improper
 - C. Mixed
 - D. Unit
13. What is the formula for the sum of interior angles of an n-sided polygon? (1 mark)
- A. $(n-2) \times 90$
 - B. $(n-2) \times 180$
 - C. $(n-1) \times 180$
 - D. $(n-1) \times 90$

- 14.** The VAT rate in Ghana is 12.5%. If an item is GH?4500 VAT inclusive (*1 mark*)
- A. what is the basic cost?
 - B. GH?4000
 - C. GH?4200
 - D. GH?5000
- 15.** What is $\frac{2}{3}$ of 150? (*1 mark*)
- A. 50
 - B. 75
 - C. 100
 - D. 125
- 16.** Write 0.75 as a percentage. (*1 mark*)
- A. 7.5%
 - B. 75%
 - C. 750%
 - D. 0.75%
- 17.** Factorize $3x + 4xy$. (*1 mark*)
- A. $x(3 + 4y)$
 - B. $x(3 + 4x)$
 - C. $3x(1 + y)$
 - D. $xy(3 + 4)$
- 18.** What is the place value of 7 in 3 (*1 mark*)
- A. 789?
 - B. Ones
 - C. Tens
 - D. Hundreds
- 19.** What is 15% of 200? (*1 mark*)
- A. 20
 - B. 25
 - C. 30
 - D. 35
- 20.** What is the perimeter of a square of side 5cm? (*1 mark*)
- A. 20cm
 - B. 25cm
 - C. 10cm
 - D. 15cm

21. If $2x = 64$ (1 mark)

- A. what is x?
- B. 4
- C. 5
- D. 6

22. If $a = 5$ and $b = 3$ (1 mark)

- A. what is $a^2 + b^2$?
- B. 16
- C. 25
- D. 34

23. Which of the following is NOT a parallelogram? (1 mark)

- A. Square
- B. Rectangle
- C. Rhombus
- D. Trapezium

24. What type of angle is 180° ? (1 mark)

- A. Acute
- B. Obtuse
- C. Right
- D. Straight

25. What is the value of $\sqrt{2}$ approximated to three decimal places? (1 mark)

- A. 1.412
- B. 1.414
- C. 1.416
- D. 1.418

26. The sum of the interior angles of a hexagon (6 sides) is... (1 mark)

- A. 540°
- B. 720°
- C. 900°
- D. 360°

27. What is the coefficient of y in $5xy$? (1 mark)

- A. 5
- B. $5x$
- C. xy
- D. y

28. Make x the subject of the formula $y = mx + c$. (1 mark)

- A. $x = (y - c)/m$
- B. $x = (y + c)/m$
- C. $x = m(y - c)$
- D. $x = m/(y - c)$

29. Simplify 6×2 . (1 mark)

- A. 6×2
- B. 2×6
- C. 8×3
- D. 4×2

30. What is the complement of a 40° angle? (1 mark)

- A. 50°
- B. 60°
- C. 90°
- D. 140°

31. Calculate $5/8 \div 2/3$. (1 mark)

- A. $15/16$
- B. $5/12$
- C. $10/24$
- D. $16/15$

32. Simplify $12 \times (5 \times 4)$ using the associative property. (1 mark)

- A. $(12 \times 5) \times 4 = 240$
- B. $12 \times (4 \times 5) = 240$
- C. $(12 \times 4) \times 5 = 240$
- D. All of the above

33. Find the simple interest on GH¢4500 at 3% per annum for 3 years. (1 mark)

- A. GH¢405
- B. GH¢135
- C. GH¢450
- D. GH¢540

34. The graph showing proportional relationships is a... (1 mark)

- A. Curve line through the origin
- B. Straight line through the origin
- C. Straight line not through origin
- D. Parabola

35. What is the bearing of East from North? (1 mark)

- A. 090°
- B. 045°
- C. 135°
- D. 180°

36. What is the back bearing of 060° ? (1 mark)

- A. 060°
- B. 120°
- C. 240°
- D. 300°

37. What is the circumference of a circle with diameter 14cm? ($\pi=22/7$) (1 mark)

- A. 22cm
- B. 44cm
- C. 88cm
- D. 154cm

38. Simplify $18 \div 6 \times (4 - 3) + 6$. (1 mark)

- A. 3
- B. 9
- C. 12
- D. 15

39. Graph the solution of $x \geq 4$ on a number line. (Conceptual) (1 mark)

- A. Closed circle at 4 shading left
- B. Open circle at 4 shading right
- C. Closed circle at 4 shading right
- D. Open circle at 4 shading left

40. What is the value of $\sqrt{12}$ approximated to one decimal place? (1 mark)

- A. 3.4
- B. 3.5
- C. 3.6
- D. 3.0

41. What is 56734 correct to two significant figures? (1 mark)

- A. 56000
- B. 56700
- C. 57000
- D. 57034

42. Round 975.8674 to three decimal places. (1 mark)

- A. 975.867
- B. 975.868
- C. 975.870
- D. 975.900

43. Simplify $3^2 \times 3$. (1 mark)

- A. 3^3
- B. 9^3
- C. 3^9
- D. 2^3

44. Find the equation of a line with slope 2 and y-intercept -3. (1 mark)

- A. $y = 2x + 3$
- B. $y = -2x - 3$
- C. $y = 2x - 3$
- D. $y = x - 3$

45. What is the decimal equivalent of $\frac{1}{8}$? (1 mark)

- A. 0.1
- B. 0.125
- C. 0.25
- D. 0.2

46. Calculate $\frac{3}{4} + \frac{7}{8}$. (1 mark)

- A. $\frac{10}{12}$
- B. $\frac{13}{8}$
- C. $\frac{11}{8}$
- D. $\frac{17}{8}$

47. Express 0.00567 in standard form. (1 mark)

- A. 5.67×10^{-3}
- B. 5.67×10^{-2}
- C. 5.67×10^3
- D. 5.67×10^2

48. What is the value of $5^2 \times 5^3$? (1 mark)

- A. 5^5
- B. 5^6
- C. 25^5
- D. 25^6

49. A trader sells oranges from two baskets. Basket A had 85 oranges and she sold 48. She sold 59 oranges from basket B and was left with the same number as in Basket A. How many were originally in Basket B? (1 mark)

- A. 96
- B. 85
- C. 59
- D. 48

50. A student scores 70 and 76. What score in the third test gives an average of 80 or higher? (1 mark)

- A. 90
- B. 92
- C. 94
- D. 96

51. Simplify $34 \div 32 + 40 - 23 \times 32 \div 9$ using BODMAS. (1 mark)

- A. 36
- B. 40
- C. 38
- D. 42

52. Solve the inequality $(1/2)(5x - 4) < x + 11/2$. (1 mark)

- A. $x < 5$
- B. $x > 5$
- C. $x < 15$
- D. $x > 15$

53. A man paid GH?290 for 11 books. Geography books cost GH?30 and history books cost GH?20. How many geography books did he buy? (1 mark)

- A. 5
- B. 6
- C. 7
- D. 8

54. The price of a jacket is three times that of a shirt. A jacket costs GH¢560.65. Mr Mensa bought two jackets and four shirts. What is the total cost correct to two decimal places? (1 mark)

- A. GH¢1121.30
- B. GH¢1495.07
- C. GH¢1868.83
- D. GH¢1682.50

55. Solve the inequality $2x + 7 > 5/2$. (1 mark)

- A. $x > -2.25$
- B. $x > 2.25$
- C. $x < -2.25$
- D. $x > -9/4$

56. What is the standard form of 8 (1 mark)

- A. 765
- B. 049?
- C. 8.765049×10^6
- D. 87.65049×10^5

57. If $A = \{\text{factors of } 12\}$ and $B = \{\text{factors of } 15\}$ (1 mark)

- A. what is $A \cap B$?
- B. $\{1\}$
- C. 2
- D. 3

58. Which of the following is an irrational number? (1 mark)

- A. $\sqrt{4}$
- B. $\sqrt{2}$
- C. 0.333...
- D. $22/7$

59. Shade $3/4$ of a rectangle. What fraction of the rectangle is unshaded? (1 mark)

- A. $1/4$
- B. $1/2$
- C. $3/4$
- D. $1/3$

60. What is $15/10$ in its simplest form? (1 mark)

- A. $5/3$
- B. $3/2$
- C. $1/2$
- D. $5/2$

61. Calculate $4/5 - 1/6$. (1 mark)

- A. $19/30$
- B. $23/30$
- C. $3/4$
- D. $5/11$

62. Calculate $2/3 \times 3/4$. (1 mark)

- A. $\frac{6}{12}$
- B. $\frac{1}{2}$
- C. $\frac{2}{4}$
- D. $\frac{3}{8}$

63. A television set marked GH¢2000 (1 mark)

- A. 250 is sold for GH¢2000
- B. 025. What is the percentage reduction?
- C. 25%
- D. 15%

64. A car costing GH¢800 (1 mark)

- A. 500 is given a 10% discount. What is the new value?
- B. GH¢720
- C. 450
- D. GH¢800

65. A car agent gets 3.5% commission on a car sold for GH¢6800 (1 mark)

- A. 000. What is the commission?
- B. GH¢2380
- C. GH¢1943
- D. GH¢23800

66. Solve the simultaneous equations graphically: $y = -x + 7$ and $y = 2x + 1$. (1 mark)

- A. (2, 5)
- B. (5, 2)
- C. (5, 5)
- D. (2, 2)

67. What is the gradient of the line passing through (2, 3) and (5, 9)? (1 mark)

- A. 3) and (5)
- B. 9)?
- C. 1
- D. 2

68. The area of a rectangle is 24cm^2 . If length is 8cm (1 mark)

- A. find the width.
- B. 2cm
- C. 3cm
- D. 4cm

69. The area of a circle is 154cm^2 . Find the radius using $\pi = \frac{22}{7}$. (1 mark)

- A. 5cm
- B. 6cm
- C. 7cm
- D. 8cm

70. Factorize $12ab + 16b$. (1 mark)

- A. $4b(3a + 4)$
- B. $4a(3b + 4)$
- C. $4(3ab + 4b)$
- D. $b(12a + 16)$

71. A man has 260m of fencing for a rectangular field 50m wide. How long is the field? (1 mark)

- A. 130m
- B. 80m
- C. 100m
- D. 160m

72. What is the surface area of a cuboid of length 5cm (1 mark)

- A. width 3cm
- B. and height 2cm?
- C. 62 cm^2
- D. 30 cm^2

73. What is the net of a triangular prism? (1 mark)

- A. Two triangles and three rectangles
- B. Six squares
- C. One rectangle and two circles
- D. Four triangles

74. Find the value(s) of x if vectors (3x (1 mark)

- A. 2) and (6
- B. x) are parallel.
- C. $x = 1$
- D. $x = 2$

75. Which vector is perpendicular to (3 (1 mark)

- A. 4)?
- B. (-3
- C. 4)
- D. (-3

76. Under enlargement (1 mark)

- A. if the scale factor is greater than 1
- B. the image is...
- C. The same size
- D. Smaller than the object

77. The sum of the lengths of two sides of a triangle is always... (1 mark)

- A. Greater than the third side
- B. Less than the third side
- C. Equal to the third side
- D. Twice the third side

78. What is the modal group if the highest frequency in a grouped table is for the class 20-30? (1 mark)

- A. 20-30
- B. 10-20
- C. 30-40
- D. Cannot determine

79. What is the volume of a cylinder with radius 7cm and height 21cm using $\pi = 22/7$? (1 mark)

- A. 3234 cm³
- B. 1078 cm³
- C. 462 cm³
- D. 154 cm³

80. What is the name of the point where the angle bisectors of a triangle intersect? (1 mark)

- A. Circumcentre
- B. Incentre
- C. Orthocentre
- D. Centroid

81. What is the square root of 64? (1 mark)

- A. 6
- B. 7
- C. 8
- D. 9

82. What is the probability of rolling a 6 on a fair die? (1 mark)

- A. 1/6
- B. 1/2
- C. 1/3

D. $\frac{1}{4}$

83. A bag contains 3 red and 2 green balls. What is the probability of picking a red ball? (1 mark)

A. $\frac{3}{5}$

B. $\frac{2}{5}$

C. $\frac{1}{5}$

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

84. What is the next term in the sequence: 2 (1 mark)

A. 4

B. 8

C. 16

D. ...?

85. What is the area of a triangle with base 6cm and height 4cm? (1 mark)

A. 12cm^2

B. 24cm^2

C. 10cm^2

D. 20cm^2

86. What is the missing angle in a triangle with angles 40° and 60° ? (1 mark)

A. 60°

B. 80°

C. 100°

D. 120°

87. What is the LCM of 4 and 6? (1 mark)

A. 12

B. 18

C. 24

D. 36

88. What is $2^3 + 2^2$? (1 mark)

A. 8

B. 10

C. 12

D. 14

89. What is the name of a 5-sided polygon? (1 mark)

A. Quadrilateral

B. Pentagon

- C. Hexagon
- D. Heptagon

90. Calculate $3.6 \div 100$. (1 mark)

- A. 0.036
- B. 0.36
- C. 36
- D. 360

91. What is the reciprocal of $\frac{2}{3}$? (1 mark)

- A. $\frac{1}{3}$
- B. $\frac{3}{2}$
- C. $\frac{2}{1}$
- D. $\frac{1}{2}$

92. How many sides does a decagon have? (1 mark)

- A. 6
- B. 8
- C. 10
- D. 12

93. What is the value of π (pi) approximated to two decimal places? (1 mark)

- A. 3.12
- B. 3.14
- C. 3.16
- D. 3.18

94. What is the area of a circle with radius 7cm? ($\pi = \frac{22}{7}$) (1 mark)

- A. 154cm^2
- B. 44cm^2
- C. 88cm^2
- D. 616cm^2

95. If 10% of a number is 20 (1 mark)

- A. what is the number?
- B. 100
- C. 200
- D. 300

96. What is the mean of 4 (1 mark)

- A. 8
- B. 6

- C. 10?
- D. 5

97. What is the median of 3 (1 mark)

- A. 7
- B. 8
- C. 5
- D. 2?

98. What is the mode of 2 (1 mark)

- A. 4
- B. 2
- C. 5
- D. 6?

99. What is the range of 12 (1 mark)

- A. 15
- B. 10
- C. 18?
- D. 6

100. What is 1 (1 mark)

- A. 000
- B. 000 in words?
- C. One hundred thousand
- D. One million

101. What is the supplement of a 110° angle? (1 mark)

- A. 70°
- B. 90°
- C. 180°
- D. 20°

SECTION C — SHORT ANSWER / THEORY

102. Use a ruler and compasses to construct an angle of 60° at a point on a line segment. Describe your steps. (1 mark)

103. Construct an angle of 90° at point P on line AB. Then bisect this angle to obtain 45° . List the steps. (1 mark)

