Roseville Secondary School, Enugu.

ENTRANCE EXAMINATION 2023/2024 ACADEMIC SESSION

SUBJECT: MATHEMATICS

TIME ALLOWED: 120MINUTES

INSTRUCTIONS

1. This paper consists of two sections: A - Mathematics, and B- Quantitative Reasoning.

2. Attempt all questions by shading the correct option from the list of options lettered A - E on the

answer sheet provided with a pencil.

3. Do not shade more than one option for each question.

4. Clearly write your examination number and date of birth on your question paper using a pen.

5. Use this paper for your rough work.

6. The use of calculators or any form of smart gadgets and wristwatches attracts outright

DISQUALIFICATION.

7. Submit all question papers alongside your answer sheet.

EXAMINATION NUMBER --

DATE: ---

DATE OF BIRTH: --

SECTION A: MATHEMATICS

1. The least common multiple of 3 and 8 is?
A. 4
B. 12
C. 14
D. 16
E. 24

2. If 5(2x – 3) = 42, then x is
A. 57
B. 42
C. 4.7
D. 5.7
E. 4.2

3. Three years ago, Marisa's mother was three times as old as Marisa. How old is Marisa's mother now if Marissa is 15 years?
A. 20
B. 24
C. 30
D. 36
E. 39

4. What value of x will make the equation
    2x + 5 = 11 a true statement?
A. 3
B. 6
C. 8
D. 10
E. 12

5. Order these fractions from least to greatest.
    7/12, 5/6, 1/2, 2/3
A. ½, 7/12, 2/3, 5/6
E. 2/3, ½, 7/12, 5/6
B. ½, 2/3, 5/6, 7/12
C. 2/3, 5/6, ½, 7/12
D. 5/6, 2/3, 7/12, ½

6. seventy percent of eligible voters in Enugu state voted in the general election. If 4,410 people voted, how many eligible voters are in Enugu State?
A. 1323
B. 6700
C. 6300
D. 14700
E. 6100

7. Round 2637.185 to the nearest hundredth
A 2600
B. 2637.2
C. 2637.18
D. 2637.19
E. 2673. 8

8. The closest estimate to 9116 ÷ 93 is
A. 10
B. 90
C. 100
D. 900
E. 1000

9. If x is an odd number, which of these is also an odd number?
A. x+2
B. 2x
C. x +1
D. x/2
E. 2/x

10. What is 200% of 3/5?
A. 5/6
B. 6/5
C. 10/3
D. 120
E. 60

11. Which of the following is NOT a factor of 36?
A. 4
B. 6
C. 9
D. 10
E. 2

12. Change 0.25 to percentage.
A. 0.25%
B. 25%
C. ¼%
D. 0.025%
E. ½%

13. Evaluate (-6) – (-12)
A. 6
B. 18
C. -18
D. -6
E. 3

14. Solve for x in x- 2 = 8

A. 6

B. -6

C. 10

D. -10

E. 2

15. What is the volume of a cube of side 5cm?

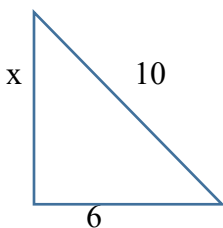A. 25cm^2

B. 25cm^3

C. 125cm^3

D. 625cm^2

E. 125cm

16. If a box of chocolate cost y naira, how much will 3 boxes cost?

A. ₦y/3

B. ₦3/y

C. ₦3y

D. ₦3 + y

E. ₦y-3

17. What is the value of x in the equation:

6x – 7 = y, if y = 11.

A. 12

B. 8

C. 4

D. 3

E. 6

18. What is the value of x?

A. 16

B.10

C. 8

D. 6

E. 4

19. Find the area of a square if the perimeter is 28cm.

A. 14cm

B. 14cm^2

C. 49cm^2

D. 56cm^2

E. 784cm^2

20. What is the circumference of a circle of radius 5cm?

(Take л = 22/7).

A. 78.6cm

B.65.7cm

C.55.8cm

D.43.2cm

E. 31.4cm

21. Two numbers are in the ratio 3: 1. The sum of the two numbers is 52. What is the larger number?

A. 39

B. 52

C. 13

D. 3

E. 22

22. Simplify 3(-3)^2

A. 9

B. 27

C. 18

D. 12

E. -27

23. Write 75.891 to the nearest tenth.

A. 75.8

B. 75.9

C. 75

D. 75.91

E. 75.89

24. Express 0.12 as a fraction.

A. 1/12

B. 12/100

C. 1/10

D. 100/12

E. 12/10

25. Which of the following is NOT a factor of 30?

A. 7

B. 3

C. 2

D. 5

E. 6

26. The least common multiple of 3 and 4 is ---
A. 12
B. 6
C. 4
D. 3
E. 36

27. Simplify: -5 + 6 + (-4) + (-8)
A. -8
B. -9
C. -17
D. -11
E. 1

28. Find the difference between 2⅓ and 1¼.
A. 1⅓
B. 1½
C. ¾
D. 1¹⁄₁₂
E. ¹⁄₃

29. If a man can clear 3 plots of land in an hour, how many plots can he clear in 12 hours?
A. 36 plots
B. 12 plots
C. 6 plots
D. 38 plots
E. 4 plots

30. If x = 2, y = 3, z = 4, then 2xyz =
A. 48
B. 24
C. 11
D. 96
E. 18

31. Find the volume of a cube of side 7cm.
A. 14cm²
B. 49cm³
C. 21cm³
D. 343cm³
E. 7cm²

32. Find the radius of a circle whose circumference is 88cm.
A. 7cm
B. 14cm
C. 28cm
D. 198cm
E. 3.5cm

33. A square has an area of 49 square inches. Find its perimeter.
A. 7
B. 14
C. 28
D. 30
E. 98

34. 3, 482, 613 rounded to the nearest million is
A. 2, 000, 000
B. 3, 500, 000
C. 3, 000, 000
D. 4, 000, 000
E. 4, 400, 000

35. Express 9/25 as a decimal fraction.
A. 0.036
B. 0.04
C. 0.36
D. 0.45
E. 0.25

36. Two angles of a triangle are 45° and 75°. What is the measure of the third angle?
A. 35°
B. 45°
C. 60°
D. 180°
E. 20°

37. An angle that is greater than 90° but less than 180° is
A. acute angle
B. right angle
C. reflex angle
D. obtuse angle
E. straight line angle

38. The sum of all interior angles of a triangle is
A. 540°
B. 90°
C. 360°
D. 180°
E. 60°

39. A bag contains 3 blue balls, 5 green balls and 6 red balls. If a ball is randomly picked from the bag, what is the probability that is green?

A. 3/7

B. 3/14

C. 5/14

D. 3/5

E. 1

40. Simplify: $2\frac{2}{3}$ x $4\frac{1}{4}$

A. 10

B. $10\frac{3}{4}$

C. $11\frac{1}{3}$

D. $11\frac{2}{3}$

E. 11

41. What is the average of the median and mode of?

3,5,9,9,2,7,1.

A. 4

B. 5

C. 6

D. 7

E. 9

42. If $^{5x}/_6 = 30$, find x.

A. 42

B. 36

C. 25

D. 20

E. 40

43. The ratio of boys to girls in a class is 2:3. If there are 12 girls in the class, how many boys are in the class?

A. 4

B. 6

C. 8

D. 10

E. 12

44. Which of the following is a unit of volume?

A. square inches

B. seconds

C. pounds

D. cubic meters

E. meters

45. The bag contains 4 kg of rice. 1 500 g is taken out for cooking. What is the ratio of the amount taken out to the original quantity?

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

B. $\frac{3}{8}$

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

D. $\frac{5}{8}$

E. $\frac{8}{3}$

46. Find the value of M.

$M^2 + 64 = 185$

A. 17

B. 15

C. 13

D. 11

E. 9

47. Find the mean of 3, 5, 1, 2, and 9.

A. 1

B. 3

C. 4

D. 9

E. 2

48. Which is the longest time?

A. 1440 minutes

B. 25 hours

C. ½ day

D. 3600 seconds

E. 2/3 day

49. Evaluate $^5/_8 \div ^3/_4$

A. 15/32

B. 20/21

C. 5/24

D. 5/6

E. 6/5

50. Which of the following is NOT a prime number?

A. 13

B. 23

C. 51

D. 97

E. 41

51. Round off 2.0052 to 3 significant figures.

A. 2

B. 2.005

C. 2.006

D. 2.01

E. 2.1

52. Simplify $\left(1\frac{1}{2} \times 1\frac{3}{5}\right) \div 1\frac{2}{5}$

A. $1\frac{5}{7}$

B. $1\frac{4}{5}$

C. $1\frac{1}{14}$

D. 1

E. $\frac{1}{7}$

53. What is the next number in the series:

    51, 46, 41, 36 …?

A. 28

B. 29

C. 32

D. 31

E. 26

54. What are the prime factors of 230?

A. 2, 5 10

B. 2, 5, 23

C. 10, 23

D. 2, 3, 4

E. 2, 10, 23

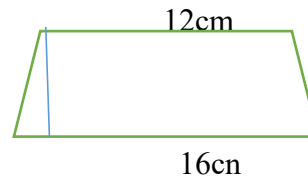55. The product of 6287 x 543 = 3413841. What is the value of 628.7 x 5.43?

A. 3413841

B. 341384.1

C. 34138.41

D. 3413.841

E. 341.3841

56. I think of a number, and subtract 5 from it. The result is 12. What was the number I thought about?

A. -17

B. -7

C. 7

D. 17

E. 5

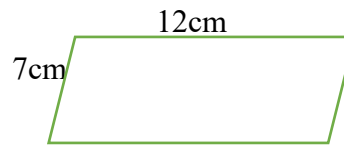57. Find the area of the trapezium below if the height is 5cm

A. 39cm²

B. 35cm²

C. 70cm²

D. 34cm²
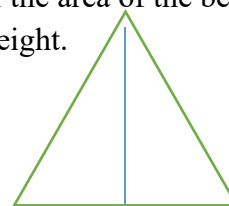
E. 140cm²

58. $\frac{1}{\sqrt{4}} \times \frac{1}{\sqrt{9}}$

A. 1

B. $\frac{13}{36}$

C. $\frac{1}{6}$

D. $\frac{5}{36}$

E. $\frac{5}{6}$

59. Calculate the area of the shape above.

A. 38cm²

B. 84cm²

C. 42cm²

D. 19cm²

E. 9cm²

60. If the area of the below triangle is 54cm², find the height.

A. 8cm

B. 12cm

C. 9cm

D. 6cm

E.32cm