

MATHEMATICS
NECO
PAST QUESTIONS AND
ANSWERS

www.realmna.com

1. Twenty girls and y boys sat on an examination. The mean marks obtained by the girls and boys were 52 and 57 respectively. If the total score for both girls and boys was 2750, find y .

- A. 51
- B. 48
- C. 30
- D. 25
- E. 18

Correct answer is option C

2. A sector of angle 120° is cut out from a circle of radius 13.5cm. What area of the circle is remaining? ($\pi = 227$)

- A. 14.1cm²
- B. 95.5cm²
- C. 190.9cm²
- D. 381.9cm²
- E. 763.7cm²

Correct answer is option D

3. Two ladders of length 5m and 7m lean against a pole and make angles 45° and 60° with the ground respectively. What is their distance apart on the pole correct to two decimal places?

- A. 9.60m
- B. 6.06m
- C. 2.54m
- D. 2.53m
- E. 2.00m

Correct answer is option D

4. The chances of Usman and Dele passing a Mathematics test are 12 and 13, respectively. What is the probability that neither of them passes the test?

- A. 35
- B. 25
- C. 415
- D. 15
- E. 215

Correct answer is option C

5. x varies directly as y and inversely as z . when $x = 5$, $y = 2$ and $z = 1$. What is the value of x when $y = 5$ and $z = 2$?

- A. 2.5
- B. 5
- C. 6.25
- D. 6.52
- E. 7.5

Correct answer is option C

6. Find the mean deviation of 20, 25, 21, 27, 28, 29, to the nearest whole number

- A. 2
- B. 3
- C. 4
- D. 5
- E. 6

Correct answer is option B

7. Calculate the area of a parallelogram whose diagonals are of length 8cm and 12cm and intersect at an angle of 135°

- A. 271.5cm²
- B. 135.8cm²
- C. 96.0cm²

D. 48.0cm²

E. 33.9cm²

Correct answer is option E

8. The ratio of the base area of a hollow cone to that of its curved surface is 1:4. If its base radius is 7cm, calculate the slant height of the cone

A. 7cm

B. 22cm

C. 28cm

D. 49cm

E. 154cm

Correct answer is option C

9. Increase 135 in the ratio 3:5

A. 225

B. 216

C. 143

D. 140

E. 140

Correct answer is option A

10. Given that $x^2 + y^2 + k = 60$ and $x = 10 - \sqrt{y}$ when $y = 4$, find the value of k .

A. 56

B. 34

C. 32

D. -34

E. -56

Correct answer is option B

11. Find y if $\sin y = \cos 48^\circ$

- A. 21°
- B. 24°
- C. 42°
- D. 48°
- E. 102°

Correct answer is option C

12. Simplify the expression: $\log_4 16 + \log_3 27 + \log_8 4096$

- A. -9
- B. $\frac{1}{3}$
- C. $\frac{1}{9}$
- D. 3
- E. 9

Correct answer is option E

13. The radii of two similar cylindrical jugs are in the ratio 3:7. Calculate the ratio of their volumes

- A. 1 : 04
- B. 3 : 07
- C. 9 : 49
- D. 0.086111111
- E. 27 : 343

Correct answer is option E

14. A man travels at a rate of 25m/sec. If he travels for $10\frac{1}{2}$ hrs, how many kilometers has he covered?

- A. 262.5
- B. 945

- C. 970
- D. 995
- E. 1822.9

Correct answer is option B

15. The ages of Abu, Segun, Kofi and Funmi are 17 years, $(2x - 13)$ years, 14 years and 16 years respectively. What is the value of x if their mean ages is 17.5 years?

- A. 18
- B. 23
- C. 25
- D. 36
- E. 70

Correct answer is option A

16. 2 bags of sugar at N_x per bag are mixed with 3 bags of sugar at N_y per bag. What is the cost in N of the mixture per bag?

- A. $(2x+3y)5$
- B. $(x+y)2$
- C. x^2+y^3
- D. $(x+y)5$
- E. $(3x+2y)5$

Correct answer is option A

17. The ages of 10 students in a class are; 15, 16, 15.5, 17, 14.9, 14.5, 14.1, 15.1, 14.8. find the range of their ages.

- A. 6.1
- B. 4.8
- C. 2.9
- D. 2.1

E. 1.9

Correct answer is option C

18. If the 3rd and the 5th terms of an A.P are 6 and 10 respectively, find the 1st term and the common difference respectively.

A. 1, 2

B. 2, 2

C. 2, 3

D. 3, 2

E. 3,3

Correct answer is option B

19. A pair of shoes was sold for N2,250.00 at a loss of 10%. What was the cost price?

A. N750.00

B. N2,500.00

C. N2,538.00

D. N3,288.00

E. N4,038.00

Correct answer is option B.

20. Find the coefficient of xy in the expansion of $(x - 4y)(3x + 2y)$

A. 14

B. 12

C. 10

D. -10

E. -12

Correct answer is option D.

21. Which of the following angular inequalities defines an obtuse angle?

- A. $0^\circ < x < 90^\circ$
- B. $0^\circ \leq x > 180^\circ$
- C. $90^\circ < x < 180^\circ$
- D. $90^\circ \leq x < 180^\circ$
- E. $90^\circ > x < 180^\circ$

Correct answer is option C

22. If $y + 1y = 9$, evaluate $y^2 + 1y^2$

- A. 27
- B. 38
- C. 54
- D. 63
- E. 79

Correct answer is option E

23. If N25,000.00 is kept in a bank at the rate of 2% simple interest, how much will it amount to at the end of 5 years?

- A. N2,500.00
- B. N5,000.00
- C. N12,500.00
- D. N27,500.00
- E. N125,000.00

Correct answer is option D

24. Construct a quadratic equation whose roots are -32 and 7

- A. $3x^2 + 11x + 21 = 0$
- B. $2x^2 + 11x + 21 = 0$
- C. $2x^2 - 11x - 21 = 0$
- D. $3x^2 - 11x - 21 = 0$

E. $x^2 - 11x - 21 = 0$

Correct answer is option C

25. A chord XY of a circle with centre O and radius 5.32cm has $\angle XOY = 140^\circ$. What is the length of the chord to the nearest centimetre?

A. 10cm

B. 6cm

C. 5cm

D. 3cm

E. 1cm

Correct answer is option A

26. Rationalize the expression $(7-3\sqrt{3})(13-3\sqrt{3})$

A. $(44 + 33\sqrt{3}) \div 83$

B. $(44 + 23\sqrt{3}) \div 83$

C. $(44 - 33\sqrt{3}) \div 83$

D. $(44 - 43\sqrt{3}) \div 83$

E. $(44 - 23\sqrt{3}) \div 83$

Correct answer is option C

27. In proving the congruence of two triangles, which of the following is not important?

A. two sides and the included angles

B. two angles and a side

C. three sides

D. three angles

E. right angle, hypotenuse and another side

Correct answer is option B

28. Bello chooses a number randomly from 1 to 10. What is the probability that it is either odd or prime?

- A. 1/10
- B. 2/5
- C. 1/2
- D. 3/5
- E. 9/10

Correct answer is option D

29. If $\tan \alpha = 12$ and $\tan \beta = 13$ and both α and β are acute, find $\tan (\alpha + \beta)$.

- A. 0.015
- B. 1
- C. 10
- D. 39.81
- E. 45

Correct answer is option B

30. Multiply $(3a - \sqrt{4a})$ by $(4a + 3a - \sqrt{4a})$

- A. $9a + 16a^2$
- B. $9a - 16a^2$
- C. $3a + 16a^2$
- D. $3a - 16a^2$
- E. $a - 16a^2$

Correct answer is option B