

SECTION A: MATHEMATICS. ANSWER ALL.

1. By how much is 25% of ₦25 greater than 15% of ₦15?

- A. ₦2.25
- B. ₦2.20
- C. ₦25
- D. ₦4
- E. 25k

2. Increase 400 by 25%.

- A. 100
- B. 500
- C. 1000
- D. 6,000
- E. 5,500

3. Find the volume of a cylinder, given the radius as 7 cm and height 10 cm

(Take $\pi = \frac{22}{7}$).

- A. 1540cm³
- B. 15 cm³
- C. 54 cm³
- D. 1640 cm³
- E. 540 cm³

4. In a class of 50 pupils 70% passed in the final examination. How many pupils failed?

- A. 10
- B. 30
- C. 15
- D. 20
- E. 35

5. If a motorist travels 100km in 2 ½ hours, what is his average speed in km per hour?

- A. 45kmph
- B. 36kmph
- C. 50kmph
- D. 40kmph
- E. 140kmph

6. Find n if n divided by ½ = 13.5

- A. 13.5
- B. 27

- C. 27.5
- D. 15.5
- E. 6.75

7. In a certain class the attendance of children from Monday to Friday was 40, 45, 42, 45 and 43. What was the average attendance of the class that week?

- A. 40
- B. 41
- C. 42
- D. 43
- E. 45

8. Subtract: hr min. sec.

$$\begin{array}{r} 3 \quad 15 \quad 0 \\ 1 \quad \underline{45} \quad 15 \end{array}$$

- A. 1hr. 29min. 0 sec.
- B. 1hr. 29min. 45 sec.
- C. 1hr. 30min. 15 sec.
- D. 2hr. 29min. 45 sec.
- E. 1hr. 45min. 29 sec.

9. Find x in the ratio 1:3 = 9 : x.

- A. 81
- B. 36
- C. 27
- D. 18
- E. 12

10. If 3 oranges cost ₦100, what will be the cost of 54 oranges?

- A. ₦3600
- B. ₦1800
- C. ₦900
- D. ₦700
- E. ₦450

11. Express 5½:2½ as a ratio of whole numbers

- A. 1:2
- B. 5:2
- C. 11:5
- D. 5:11
- E. 2:1

12. If a car covers a distance of 189km in $4\frac{1}{2}$ hours, what is its average speed?
- 58km/h
 - 52km/h
 - 48km/h
 - $47\frac{1}{4}$ km/h
 - 42km/h
13. Increase 600 by $8\frac{1}{3}\%$
- 50
 - 450
 - 550
 - 605
 - 650
14. Express 0.02 as a percentage.
- 0.02%
 - 0.2%
 - 2%
 - 20%
 - 50%
15. What is the total length of 3km, 464m, 8km, 550m and 900m in kilometer?
- 11.814km
 - 11.914km
 - 11.924km
 - 12.914km
 - 12.814km
16. Olu, Ngozi and Mohammed are to share 120 oranges in the ratio 1:2:3 respectively. How many oranges will Mohammed have?
- 80
 - 60
 - 40
 - 30
 - 20
17. The perimeter of a rectangular room is 60m. What is the length of the room if the width is 12m?
- 5m
 - 18m
 - 36m
 - 48m
 - 720m
18. 4 boys can scrub the whole floor of a school hall in $2\frac{1}{2}$ hours. How long would it take 5 boys to scrub the floor at the same rate?
- 1 hour
 - $1\frac{1}{2}$ hours
 - 2 hours
 - $2\frac{1}{2}$ hours
 - 3 hours
19. Express 9.086 correct to 2 decimal places.
- 90.80
 - 90.08
 - 90.09
 - 9.09
 - 9.08
20. If a school begins at 8.15a.m. and closes at 2.05p.m. For how many hours and minutes are the students in school each day?
- 5 hours 5 minutes
 - 5 hours 10 minutes
 - 5 hours 15 minutes
 - 5 hours 20 minutes
 - 5 hours 50 minutes
21. A cyclist can travel 30km in 4hrs. How many kilometers would he have travel in $2\frac{1}{2}$ hrs at the same rate?
- $16\frac{1}{4}$ km
 - $17\frac{1}{2}$ km
 - $18\frac{3}{4}$ km
 - $19\frac{1}{4}$ km
 - $20\frac{1}{2}$ km
22. Mr. Adu bought a motorcycle and paid for it in two installments. In May he paid ₦ 330,000 which was $\frac{2}{3}$ of the cost. He paid the rest in June. How much did he pay in June?
- ₦ 110,000
 - ₦ 165,000
 - ₦ 220,000
 - ₦ 330,000
 - ₦ 495,000

23. The average height of a barometer during one week was 30.84 inches. For six week days of the same week the average height was 30.18 inches. What was the height on Sunday?
- 0.66 inch
 - 24.80 inches
 - 30.51 inches
 - 32.49 inches
 - 34.80 inches
24. Jones is now twice as old as he was 5 years ago and his mother is now 4 times as old as Jones. How old is his mother now?
- 20 years
 - 40 years
 - 50 years
 - 80 years
 - 100 years
25. In the number 7564, by how much is the value of the 7 greater than the value of the 4?
- 3
 - 56
 - 756
 - 6996
 - 7557
26. In a class $\frac{1}{4}$ of the pupils are girls, $\frac{2}{5}$ of the girls are boarders and none of the boys are boarders. What fraction of the class are boarders?
- $\frac{1}{10}$
 - $\frac{3}{10}$
 - $\frac{3}{8}$
 - $\frac{5}{8}$
 - $1\frac{3}{5}$
27. If $\frac{7}{8}$ of the share capital of a certain company is equal to ₦ 44,800, what is the total share capital of the company?
- ₦ 39,200
 - ₦ 39,277
 - ₦ 51,200
 - ₦ 51,288
 - ₦ 313,600
28. Edet took sixth at the end of a term tests and each test was marked out of 80. If his marks were 48, 52, 46, 46, 44 and 52. What percentage of the total marks did he get?
- 36%
 - 40%
 - 48%
 - 60%
 - 72%
29. Maria is x years old. In two years' time she will be 16 years old. Find x
- 2
 - 7
 - 8
 - 14
 - 18
30. The value 8 in 214.385 is
- 8 tens
 - 8 tenths
 - 8 hundreds
 - 8 hundredths
 - 8 units
31. If $5 + \frac{1}{7}$ is expressed as an improper fraction, its numerator will be
- 35
 - 36
 - 13
 - 12
 - 8
32. Each face of a cuboid is in the shape of a
- Triangle
 - Rectangle
 - Square
 - Circle
 - Cube

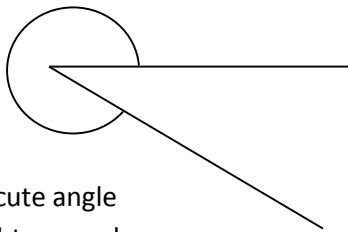
33. An exercise book has x pages. Two exercise books have 64 pages. What is the value of x ?

- A. 23 pages
- B. 46 pages
- C. 32 pages
- D. 128
- E. 66 pages

34. The prime factors of 60 are:

- A. 2, 4 and 5
- B. 2, 3 and 4
- C. 2, 3 and 6
- D. 2, 3 and 5
- E. 1, 2, 3 and 5.

35. The angle shown in the diagram below is:



- A. Acute angle
- B. Obtuse angle
- C. Right – angle
- D. Straight angle
- E. Reflex angle

36. If 63 mangoes are shared among 2-face, P-square and Ice-prince in the ratio 2:3:4, how many mangoes did P-square receive?

- A. 6 mangoes
- B. 9 mangoes
- C. 14 mangoes
- D. 21 mangoes
- E. 28 mangoes.

37. Simplify: $\frac{5.6 \times 2.4}{0.3 \times 3.2}$

- A. 0.014
- B. 0.14
- C. 1.40
- D. 14.0
- E. 140

38. Add; one-third of sixty three, two-thirds of eighty one and fifty seven.

- A. 123
- B. 132
- C. 159
- D. 192
- E. 201

39. A bank pays 4% simple interest. If Whitney deposits ₦ 600 for 3 years, what will be her money at the end of 3 years?

- A. ₦ 72
- B. ₦ 72 600
- C. ₦ 672
- D. ₦ 7 600
- E. ₦ 528

40. 12 men can build a wall in 15 days. In how many days will 10 men build it?

- A. 18 days
- B. 10 days
- C. $12 \frac{1}{2}$ days
- D. 15 days
- E. 20 days

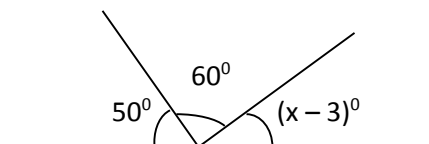
41. If the circumference of a circle is 88 cm, find the diameter of the circle given that $\pi = \frac{22}{7}$.

- A. 14 cm
- B. 22 cm
- C. 28 cm
- D. 33 cm
- E. 24 cm

42. Expand $2^2 \times 3^2 \times 7$.

- A. 232
- B. 212
- C. 262
- D. 242
- E. 252

43. Find the value of x in the diagram given below:



- A. 73°
- B. 70°
- C. 113°
- D. 110°
- E. 143°

44. Find the area of a triangle with base 10 cm and height 7 cm.
- A. 35 cm^2
 B. 55 cm^2
 C. 45 cm^2
 D. 33 cm^2
 E. 70 cm^2
45. The average of four numbers is 10. Three of the numbers are 17, 13 and 6. What is the fourth number?
- A. 36
 B. 14
 C. 10
 D. 8
 E. 4

SECTION B: QUANTITATIVE REASONING.
ANSWER ALL QUESTIONS WITH THE USE OF THE SAMPLES GIVEN

Sample:

$2! = 2 \times 1 = 2$ $4! = 4 \times 3 \times 2 \times 1 = 24$ $6! = 6 \times 5 \times 4 \times 3 \times 2 \times 1 = 720$
--

Use the above sample to answer questions 46 – 50.

46. $3! + 5! = ?$
- A. 6
 B. 8
 C. 15
 D. 120
 E. 126
47. $\frac{6!}{4!} = ?$
- A. 3
 B. 24
 C. 30
 D. 240
 E. 720
48. $\frac{3!+2!}{2!} = ?$
- A. 1
 B. 2
 C. 3
 D. 4
 E. 5

49. $4! - 3! = ?$
- A. 1
 B. 4
 C. 12
 D. 18
 E. 144

50. If $3! \times n = 3$, what is n?
- A. 3
 B. 2
 C. 1
 D. $\frac{1}{2}$
 E. 0

Sample:

$\binom{2}{5} + \binom{1}{3} = \binom{3}{8}; \binom{4}{3} + \binom{5}{10} = \binom{9}{13}$ $\binom{5}{8} - \binom{4}{6} = \binom{1}{2}; \binom{16}{13} - \binom{11}{7} = \binom{5}{6}$

Use above sample to answer questions 51 – 55.

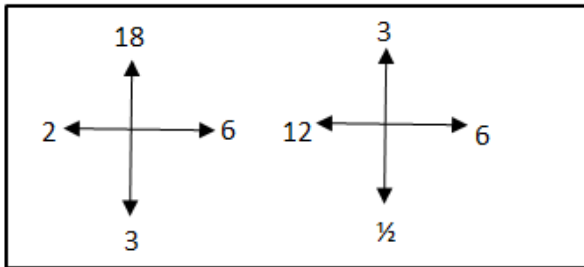
51. $\binom{7}{6} + \binom{4}{3} = \binom{?}{9}$
- A. 5
 B. 7
 C. 9
 D. 11
 E. 12
52. $\binom{8}{?} - \binom{7}{7} = \binom{1}{2}$
- A. 5
 B. 7
 C. 9
 D. 11
 E. 13
53. $\binom{16}{10} - \binom{8}{8} = \binom{8}{?}$
- A. 2
 B. 4
 C. 6
 D. 8
 E. 10
54. $\binom{0}{5} + \binom{5}{?} = \binom{5}{5}$
- A. 5
 B. 3

- C. 2
- D. 1
- E. 0

55. $\begin{pmatrix} 1 \\ 3 \\ 3 \\ 4 \end{pmatrix} + \begin{pmatrix} ? \\ 1 \\ 4 \end{pmatrix} = \begin{pmatrix} 1 \\ 1 \end{pmatrix}$

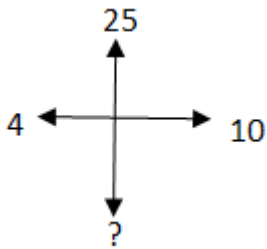
- A. $\frac{1}{3}$
- B. $\frac{2}{3}$
- C. $\frac{3}{4}$
- D. $\frac{5}{6}$
- E. 1

Sample:



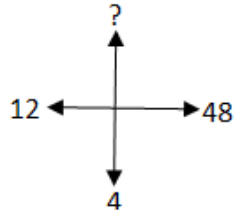
Use sample to answer questions 56 – 60

56.



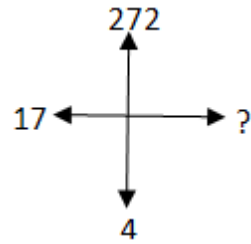
- A. 0.4
- B. 2.5
- C. 4
- D. 10
- E. 25

57.



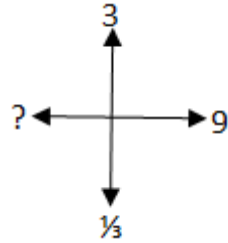
- A. 0.25
- B. 12
- C. 3
- D. 4
- E. 192

58.



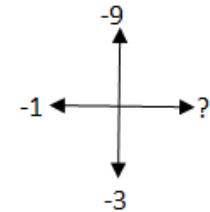
- A. 4
- B. 17
- C. 34
- D. 68
- E. 272

59.



- A. $\frac{1}{3}$
- B. 3
- C. 6
- D. 9
- E. 27

60.



- A. -9
- B. -3
- C. -1
- D. 3
- E. 9

**MATHEMATICS ANSWER KEYS FOR
THE ENTRANCE EXAM.**

1. D
2. B
3. A
4. C
5. D
6. E
7. D
8. B
9. C
10. B
11. C
12. E
13. E
14. C
15. D
16. B
17. B
18. C
19. D
20. E
21. C
22. B
23. E
24. B
25. D
26. A
27. C
28. D
29. D
30. D
31. B
32. B
33. C
34. D
35. E
36. D

37. D
38. B
39. C
40. A
41. C
42. E
43. A
44. A
45. E
46. E
47. C
48. D
49. D
50. D
51. D
52. C
53. A
54. E
55. B
56. B
57. E
58. D
59. E
60. D