

**THE INTERNATIONAL SCHOOL
UNIVERSITY OF IBADAN
ENTRANCE EXAMINATION TO JSI 2006
MATHEMATICS**

TIME: 1 HR. 15

**2006
MINS**

Do not open this paper until you are told to do so. While you are waiting, read the following instructions carefully

- a. Write your NUMBER and NAME In the space provided at the top of the answer sheet, putting your SURNAME FIRST in capital letters.
- b. You must only use a pencil to SHADE the entire box. DO NOT TICK.
- c. Think carefully before choosing your answer to each question. When you have made your choice, look at the answer sheet for the number of the question, then find the letter of the answer you have chosen, and shade 1 your answer.
- d. If you want to change an answer you must erase it completely, then shade in the new answer.
- e. Work as fast and as carefully as you can. When you have finished one part go straight on to the next. The total number of questions Is 50
- f. Candidates should use only the answer sheet provided by the Invigilator. No other answer sheet will be accepted. All rough work must be done on the Question paper
- g. Submit your answer sheet to your Invigilator.

1. Simplify $\frac{x}{2} -$

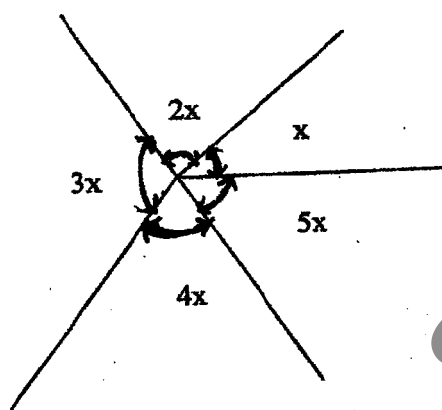
(a) $\frac{x}{3}$

(b) $\frac{-x}{6}$

(d) $\frac{2-x}{6}$

3

2.



$$\frac{2x-1}{3}$$

$$(c) \frac{-2x^2 + x}{6}$$

Calculate the value of x

(a) 36°

(b) 52.5°

(c) 24°

(d) 45°

3 Two books cost N500 each and four other books cost N800 each. Find the average cost of a book.

(a) N560 (b) N680 (c) N700 (d) N725.40

4 The average temperature for the first six days of a week is 72°C and the average temperature for the whole week is 73°C . Calculate the temperature for the seventh day

(a) 10°C (b) 75°C (c) 83.4°C (d) 79°C

5. Find the cube of $2^2 \times 3^3 \times 5^4$

(a) $2^6 \times 3^9 \times 5^{12}$ (b) $2^8 \times 3^9 \times 5^{27}$ (c) $2^8 \times 3^{27} \times 5^{64}$
(d) $2^3 \times 3^3 \times 5^3$

6. Find the square root of 9,604

(a) 69 (b) 98 (c) 5802 (d) 36

7. Simplify $2^{5/6} + 2/9$ of $(3^{3/4} - 2 \frac{1}{4})$

(a) $2^{7/9}$ (b) $3^{1/6}$ (c) $5^{1/3}$ (d) $11/13$

8. A man spends $1/4$ of his money and finds that he has N21 more than

what he had spent. How much is the whole money?

(a) N53 (b) N42 (c) N35 (d) N37.50

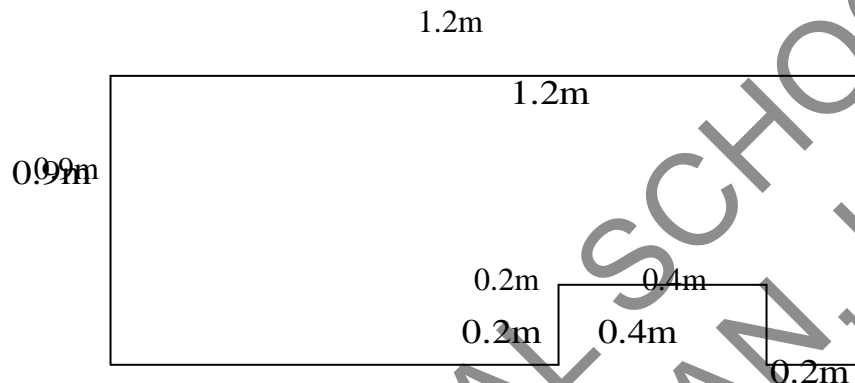
9 Express speed of 18km an hour in meters per second

(a) 18m/s (b) 5m/s (c) 12m/s (d) 15m/s

10 Find the simple interest on N2500 for 73 days at 4% per annum borrowed in the year 2005

(a) N50 (b) N37 (c) N20 (d) N26.30

11.



Given that perimeter is the distance round a plane figure, find the perimeter of the shape above.

(a) 2.4m (b) 5.2m (c) 3.8m (d) 4.6m

12 Lawal took ten tests in a term and scored 4, 4, 5, 4, 5, 3, 6, 7, 8, 4 out of a maximum of ten marks. Find the mean marks scored by him.

(a) 4 (b) 5 (c) 6 (d) 5.5

13 Find the area of a circle whose circumference is 10π . Leave your answer in terms of π .

(a) 25π (b) 100π (c) 76π (d) 15π

14 Divide the L.C.M. of 84, 108 and 72 by its H.C.F.

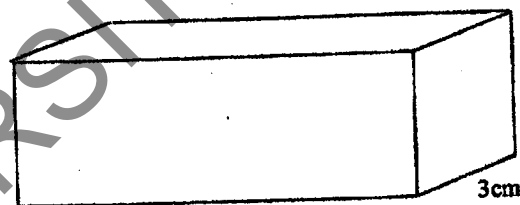
(a) 102 (b) 142 (c) 98 (d) 126

15 Write in figure: One million, twenty thousand and eighty.

(a) 1 020 080 (b) 12 00 008 (c) 1020800 (d) 1 002080

16 Subtract

(a) XXXVIII (b) LXVIII (c) CLXII from CC (d) XXVIII

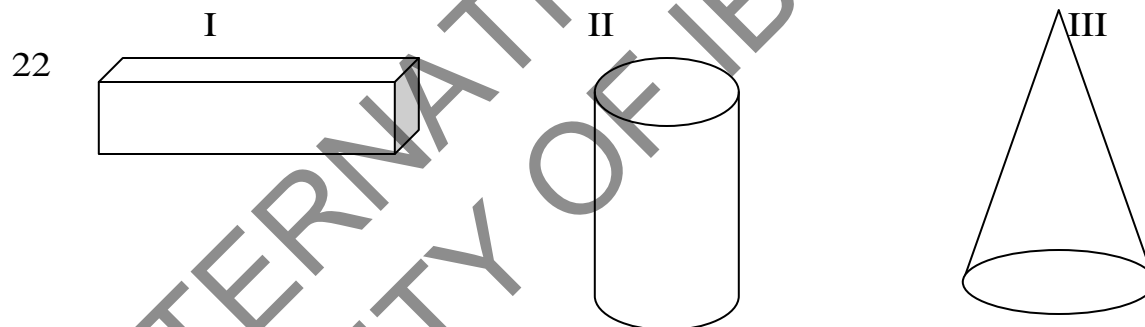


17. What is the volume of the box below?

5cm

10cm

- (a) 80cm^3 (b) 120cm^3 (c) 135cm^3 (d) 150cm^3
- 18 Subtract 1.137 from 25% of 75.52
(a) 28.483 (b) 17.753 (c) 17.743 (d) 16.578
- 19 When Ade was 15 years old his Mend Yinka was 18 years. If Ade was born in 1900, In what year was Yinka born?
(a) 1867 (b) 1897 (c) 1903 (d) 1918
- 20 How much less than 1 is the sum of $\frac{1}{2}$ and $\frac{1}{4}$?
(a) $\frac{1}{3}$ (b) $\frac{1}{4}$ (c) $\frac{1}{5}$ (d) $\frac{1}{6}$
21. What Is the smallest number that can be divided exactly by either 4, 6 or 9?
(a) 18 (b) 24 (c) 36 (d) 54



Name the above solid figures in order from I right to left

- | I | II | III |
|---------------|----------|----------|
| (a) cuboid | cylinder | cone |
| (b) cylinder, | cuboid | cone |
| (c) cone, | cylinder | cuboid |
| (d) cone, | cuboid | cylinder |
- 23 If $4P$ means '4 multiplied by P' and $4P + 2 = 26$, what number does P represent?
(a) 6 (b) 12 (c) 48 (d) 96
24. A rectangle, 15cm wide, has Its length Increased by 2cm. If the new

perimeter of the rectangle is 70cm, find its original length.

- (a) 43.5cm (b) 20cm (c) 19cm (d) 18cm

25. Add one-fifth of 60 to a quarter of 84

- (a) 9 (b) 12 (c) 21 (d) 33

26

W

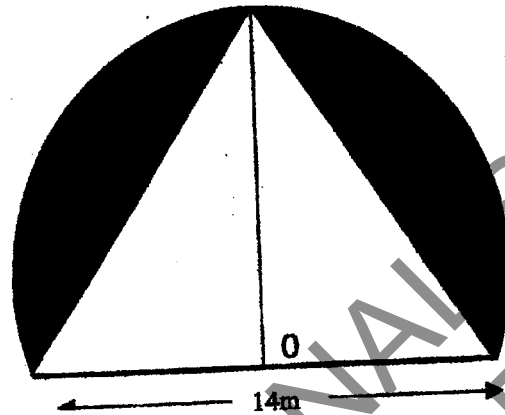
10cm

X

6cm

Z

Y



The diagram with $\angle WXO = 0^\circ$, Find the portion:

- (a) 60cm^2 (b) 40cm^2 (c) 30cm^2 (d) 16cm^2

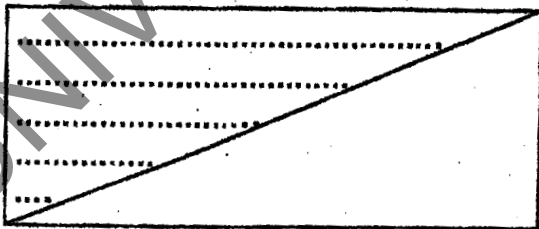
WXYZ is a rectangle 10cm and $\angle XOY = 60^\circ$ area of the shaded

27. Find the value of

- (a) 2 (b) $12/35$ (c) -2 (d) $2/35$

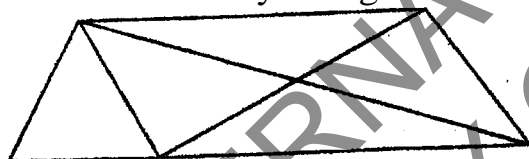
28 Find the area of the shaded portion of the diagram below which is a semicircle with O as the centre of the circle ($\pi = 22/7$)

- (a) 30m^2 (b) 28m^2 (c) 18m^2 (d) 10m^2



29. Thirteen electric poles with equal intervals are erected along a road 1.5km. Find the length of each interval in m.

- (a) 150m (b) 145m (c) 125m (d) 45m
30. A cubic reservoir tank has a side of 20m Find the volume of the tank.
(a) $80\,000\text{m}^3$ (b) $8\,000\text{m}^3$ (c) 800m^3 (d) 8m^3
31. The sides of two squares are 4cm and 5cm. Find the ratio of their areas.
(a) 1:3 (b) 25:16 (c) 2:1.5 (d) 16:25
32. Which is the largest among these: $\frac{4}{5}$, 40%, $\frac{3}{4}$, 0.125
(a) $\frac{4}{5}$ (b) 40% (c) $\frac{3}{4}$ (d) 0.125
33. The product of two numbers is 517. If one of the numbers is 11. Find the other number.
(a) 407 (b) 147 (c) 74 (d) 47
34. An exercise book has 60 leaves. Each page of the book has 15 lines.
How many lines are there altogether?
(a) 900 (b) 1080 (c) 1800 (d) 2800
35. Simplify: $p^2 + p^2 - 2p^2$
(a) 0 (b) $4p^2$ (c) $3p^2$ (d) $13p^6$
36. Which of these groups of numbers have 36 as their common multiple?
(a) 2,5,6 (b) 3,4,7 (c) 4,9,12 (d) 1,8,9
37. A book cost \$4.50, If the exchange rate is \$1 = N130, find the cost of the book in Naira.
(a) N585 (b) NS05 (c) N58.5 (d) N5.85
38. How many pieces of N500 notes make N100500.00?
(a) 210 (b) 200 (c) 201 (d) 20
39. How many triangles are there in the diagram below?



- (a) 6 (b) 7 (c) 8 (d) 10
40. A village contains 1680 Inhabitants and $\frac{200}{100}$ of them got to a concert. If the concert room will hold 420 people, what fraction of the seats will not be used?
(a) $\frac{1}{5}$ (b) $\frac{1}{2}$ (c) $\frac{2}{21}$ (d) $\frac{3}{4}$
41. 2,400 pupils sat for an examination, $\frac{1}{4}$ of them were girls. If 10% of the boys and $\frac{300}{100}$ of the girls failed what decimal of the whole passed.
(a) 0.58 (b) 0.95 (c) 0.83 (d) 0.55
42. If $a = \frac{1}{2}$ and $b = \frac{1}{3}$, find the value of $\frac{a + 6b}{2a + 3b}$
(a) $\frac{1}{2}$ (b) $\frac{4}{5}$ (c) $4\frac{1}{2}$ (d) $\frac{5}{4}$
43. What remains when 28 units of 2 litres jugs are filled from a tank

- holding 64 litres1
(a) 8 litres (b) 36 litres (c) 10 litres (d) 6 litres
- 44 Which of these angles Is a reflex angle?
(a) 95° (b) 80° (c) 105° (d) 230°
- 45 How many minutes are. there In a week?
(a) 420minutes (b) 1440 minutes (c) 10,080 minutes
(d) 604,800 minutes
46. Two angles of triangle ABC are 46° and 67° . Calculate the third angle of triangle ABC. Hence decide which one of the following kinds of triangle it is
(a) equilateral triangle (b) scalene triangle
(c) obtuse-angled triangle (d) isosceles triangle
- 47 The selling price of a bicycle is N8600. If the price is reduced by 15%, how much will the bicycle cost
(a) N7310 (b) N1290 (c) N9890 (d) N 7130
- 48 Simplify $3^1 \times 3^2 \times 3^{-1} \div 3^\circ$
(a) 243 (b) 81 (c) 27 (d) 0
- 49 Find the number by which 180 must be multiplied so that the product becomes a perfect square
(a) 5 (b) 3 (c) 10 (d) 2
- 50 If I walk from 4.45pm to 8.15pm for how many minutes do I walk many minutes walk?
(a) 210 minutes (b) 180 minutes (c) 150minutes
(d) 240 minutes