

**THE INTERNATIONAL SCHOOL
UNIVERSITY OF IBADAN
ENTRANCE EXAMINATION TO JS1 2007**

2007

**MATHEMATICS
MINS**

TIME: 1 HR. 15

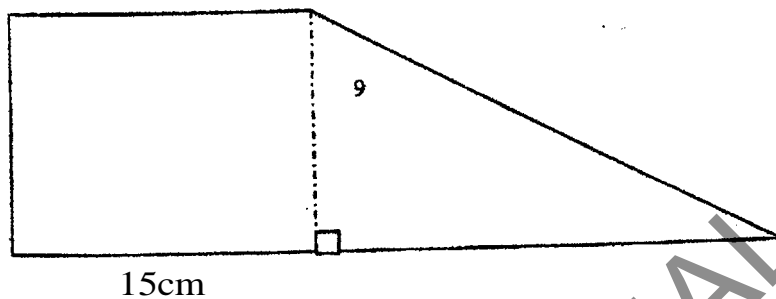
Do not open this paper until you are told to do so. While you are waiting, read the following instructions carefully

- 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 for the answer sheet of the question, then find the letter of the answer you have chosen, and shade in 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 page, 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. The area of a rectangle is 164cm^2 and the breadth is $8\frac{1}{5}\text{cm}$. find its perimeter

- (a) 26 (b) $39\frac{1}{5}$ (c) $56\frac{2}{5}$ (d) $62\frac{4}{5}$

2. Calculate the area of the trapezium ABCD in the figure below

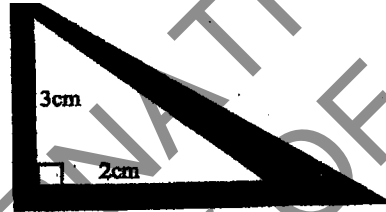


- (a) $103\frac{1}{2}\text{cm}^2$ (b) $122\frac{1}{2}\text{cm}^2$ (c) $134\frac{1}{2}\text{cm}^2$ (d) 145 cm^2

3. The area of a rectangle is twice the area of a square. The breadth of the rectangle is equal to the sides of the square and is 10cm long. What is the length of the rectangle?

- (a) 20cm (b) 15cm (c) 10cm (d) 5cm

4. Find the area of the shaded portion in the diagram below



8cm

6cm

5. Find the area of a ring formed by two circles whose radii are 11 cm and 7cm

- (a) $305\frac{1}{2}\text{cm}^2$ (b) $226\frac{1}{2}\text{cm}^2$ (c) $109\frac{1}{2}\text{cm}^2$ (d) $421\frac{1}{2}\text{cm}^2$

- 6 Find the simple interest N420 for $3\frac{1}{2}$ years at $12\frac{1}{2}$ percent per annum
 (a) N123.46 (b) N49.92 (e) N183.75 (d) N203.12

7. What is the smallest number that can be divided by 40, 60 and 90.

- (a) 180 (b) 240
 (c) 360 (d) 540

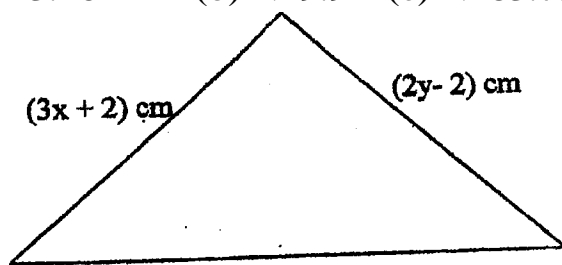
8. How many panels of 2m long can be used to fence the perimeter of a garden of length 18m and width 8m if two of the panels will be replaced by garage gates.

- (a) 13 (b) 26 (c) 19 (d) 24

- 9 A circle of diameter 7cm has a circumference of 22cm. If a quadrant is cut away what is the perimeter of the remaining figure?

- (a) 140cm (b) $23\frac{1}{2}$ cm (c) 54cm (d) $37\frac{3}{4}$ cm

- 10 If $X=2$, $y=5$, find the perimeter of the triangle below



$(y+3)\text{cm}$

- (a) 32 (b) 24cm (c) 40cm (d) 48cm

- 11 What Is the sum of 6^2 , 2^3 and $\sqrt{289}$

- (a) 18 (b) 20 (e) 34 (d) 61

- 12 Divide the sum of 8,6,4,2,0 by the average of the five numbers (d) circle
 (a) 4 (b) 5 (c) 9 (d) 10

- 13 Reduce $1400/1700$ into its lowest term and find the sum of the numerator and denominator

- (a) 14 (b) 31 (c) 91 (d) $3/19$

- 14 The weights of five children in kilograms are as follows 30, 45, 35,44, 31. A sixth child Joins the group. If the mean is now 36kg, how much does this sixth child weight.

- (a) 36 (b) 42 (c) 31 (d)36

15. How many triangles can be found in the diagram below?

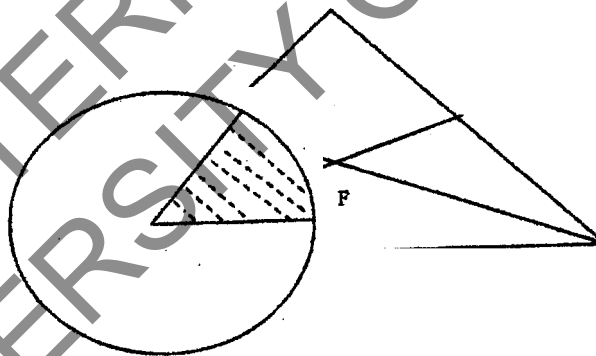
A

D

E

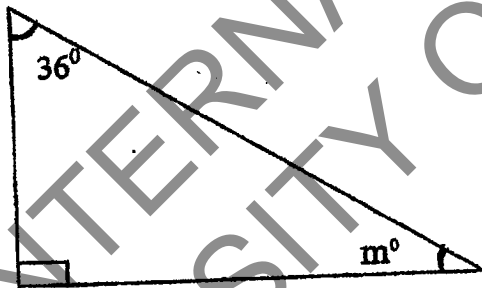
- (a) (b) 5 (c) 6 (d) 8
- 16 Each face of a cuboid is in the shape of a
(a) triangle (b) rectangle (c) square (d) circle
- 17 If May 5, 2007 is a Saturday, what day is August 23, 2007
(a) Tuesday (b) Thursday (c) Saturday (d) Sunday
18. Find the square root of $7^2 \times 6^2 - 5^2$
(a) 44100 (b) 1440 (c) 210 (d) 45
19. If $2! = 2 \times 1 = 2$
 $3! = 3 \times 2 \times 1 = 6$
 $4! = 4 \times 3 \times 2 \times 1 = 24$
Find $4! + 5!$
(a) 144 (b) 124 (c) 120 (d) 134

20.

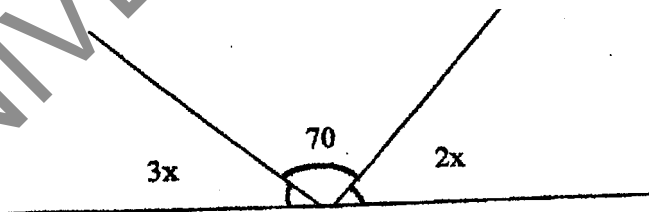


- The shaded part of the circle above is called
(a) a segment (b) a semi-circle (c) a sector (d) a chord
- 21 How many litres of water do a 5m X 8m X 4m tank hold?
(a) 120,000 litres (b) 120 litres (c) 100 litres (d) 15 litres
- 22 A container has a volume of $37\frac{1}{2}\text{m}^3$ Its length is 8m and Its width $2\frac{1}{2}$ m. How high is it?

- (a) 5m (b) $7\frac{1}{3}m$ (c) $4\frac{1}{9}m$ (d) $2\frac{1}{2}m$
23. What is the smallest number which has a remainder of 2 when it is divided by 6, 7 or 8?
- (a) 152 (b) 170 (c) 334 (d) 338
24. Simplify $\frac{8\frac{1}{6} \times 3\frac{3}{7}}{11\frac{2}{3}}$
- (a) $2\frac{2}{5}$ (b) $1\frac{3}{4}$ (c) $3\frac{4}{5}$ (d) $\frac{7}{9}$
25. Express 2 minutes 15 seconds as a fraction of 7 minutes 30 seconds.
- (a) $\frac{1}{8}$ (b) $\frac{2}{5}$ (c) $\frac{3}{10}$ (d) $\frac{8}{11}$
26. Find the smallest number by which 162 must be multiplied so that its product is a perfect square?
- (a) 2 (b) 3 (c) 5 (d) 4
27. What is the smallest number that can be divided exactly by 40, 60 and 90
- (a) 180 (b) 240 (c) 360 (d) 540
28. A pen costs m kobo and a pencil costs 15 kobo less than a pen. Find the cost of a pen and two pencils
- (a) $(2m - 15)$ kobo (b) $(3m - 30)$ kobo (c) $(m - 15)$ kobo
(d) $(2m + 30)$ kobo
29. Find the sum of the next two terms of the sequence 1, 2, 5, 10, 17, 26
- (a) 87 (b) 66 (c) 65 (d) 50
30. Find the value of the angle marked m in the diagram below



- (a) 54° (b) 90° (c) 55° (d) 62°
31. Find the value of x in the diagram below



(a) 22°

(b) 55°

(c) 11°

(d) 35°

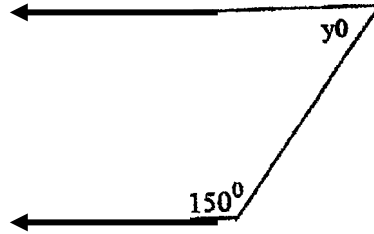
32. Find the size of the lettered angle

(a) 210°

(b) 150°

(c) 70°

(d) 30°



33. Calculate the value of x in the figure below x

(a) 9

(b) 13

(c) 15

(d) 7

x

8

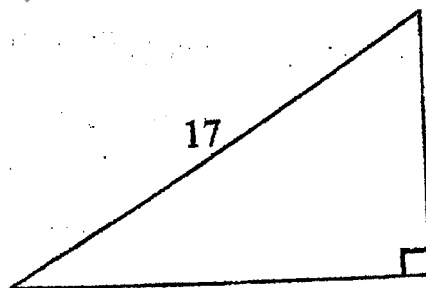
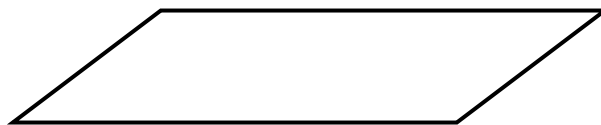
34. Which of the following figures below is not a quadrilateral?

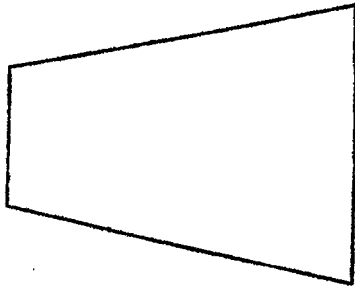
(a) b

(b) d

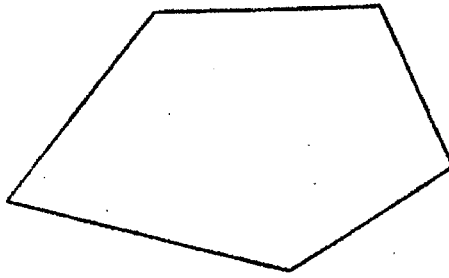
(c) a

(d) c



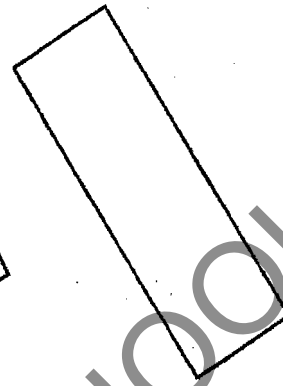


(c) reflex angle

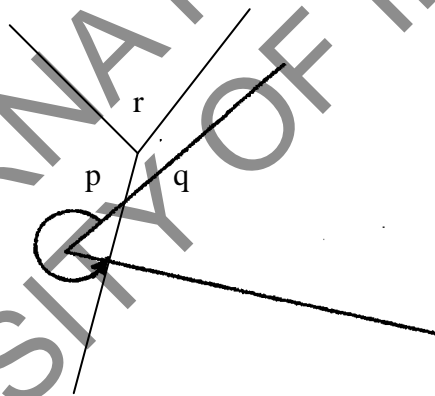


35

The angle marked "P" is a/an
 (a) acute angle (b) angle at a point
 (d) obtuse angle .



p

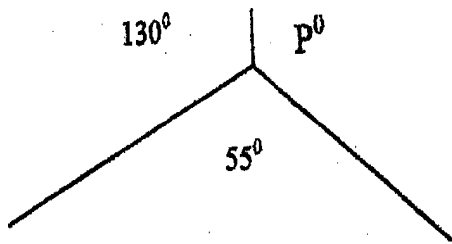


36

In the diagram above, if $p=q=r$, find the value of $3p - 2q + r$
 (a) 150° (b) 180° (c) 320° (d) 240°

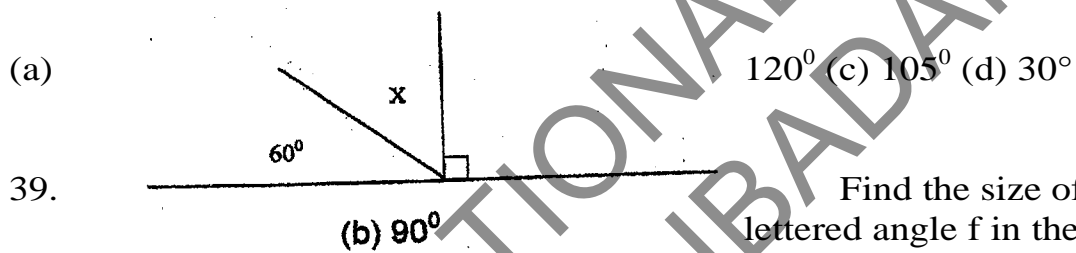
37.

Find the value of P in the diagram below



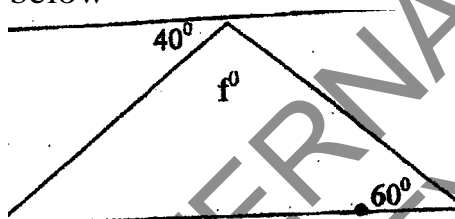
- (a) 165° (b) 175° (c) 195° (d) 205°

38. Calculate the value of X in the diagram below



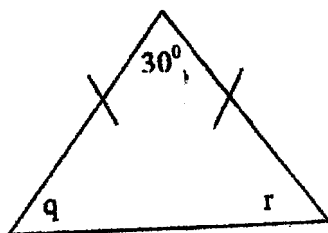
39.

below

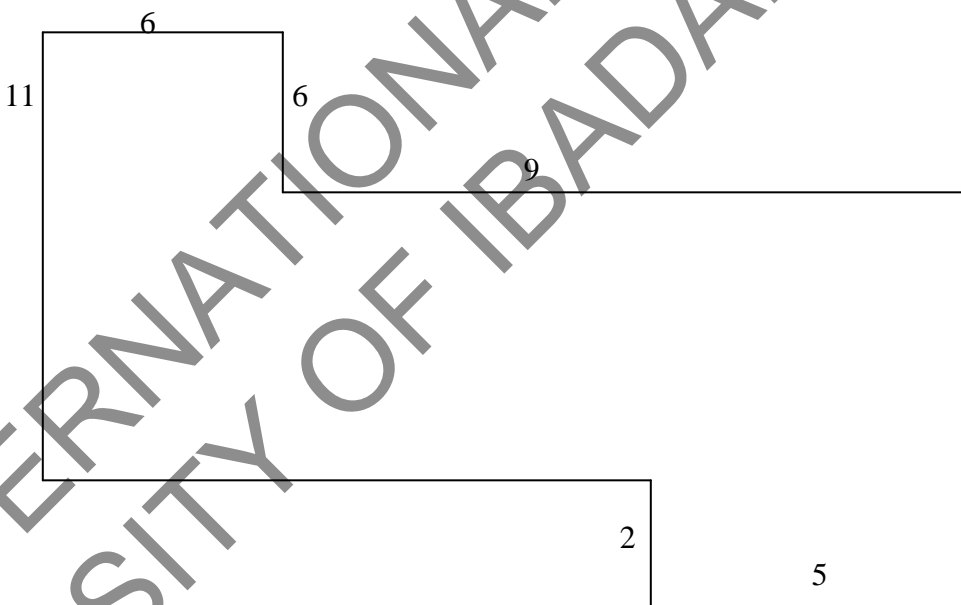


- (a) 45°
 (b) 70°
 (c) 80°
 (d) 100°

Find the size of the lettered angle f in the figure



40. What is the value of the lettered angle q in the diagram above
 (a) 60° (b) 75° (c) 98° (d) 120°
41. The angles of a quadrilateral are x , $2x$, $3x$ and $4x$. Find x
 (a) 36° (b) 18° (c) 10° (d) 54°
42. What is the size of each angle of a regular pentagon?
 (a) 72° (b) 108° (c) 144° (d) 120°
43. Calculate the area of the shape below. All measurements are in meters and all angles are right angles.

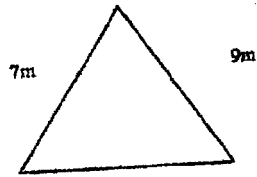


- (a) 121m^2 (b) 91m^2 (c) 87m^2 (d) 79m^2
44. A bicycle wheel has a diameter of 63cm. How many meters has the bicycle traveled for 50 revolutions of the wheel? Use the value of $\frac{22}{7}$ for π .
 (a) 98m (b) 99m (c) 1098m (d) 8019m
45. Find the diameter of a circle whose area is 154cm^2 (Take $\pi = \frac{22}{7}$)
 (a) 70m (b) 140m (c) 11cm (d) 49cm
46. If the simple Interest on N950 for a year is N38, find the rate percent.
 (a) 3% (b) 4% (c) 5% (d) 8%

47. Find how many years it will take for an investment of N1200 invested at 5 percent to earn a simple interest of N210.

- (a) 4 years (b) $2\frac{1}{2}$ years (c) $5\frac{1}{6}$ years (d) $3\frac{1}{2}$ years

48. Find the semi-perimeter of the triangle below



(a) 25m (b) 14m (C) 18m (d) 32m

49. A square has the same perimeter as a 5cm by 7cm rectangle. What Is the area of the square?

- (a) 9cm^2 (b) 25cm^2 (c) 36cm^2 (d) 49cm^2

50. Evaluate $3\sqrt{6} - 4 \times \sqrt{\frac{1}{64}}$

- (a) $11\frac{1}{2}$ (b) 34 (c) $11\frac{5}{6}$ (d) 10