06 E I

Question No.	Marks
1 - 5	
6 - 10	
11 - 15	
16 - 20	
Total Marks	

ශ්‍රී ලංකා විභාග දෙපාර්තමේන්තුව / இலங்கை பரீட்சைத் திணைக்களம் /
Department of Examinations, Sri Lanka

2568 - Piriven Ordinary Level Examination - 2024 (2025)

(06) Mathematics

Paper I

One hour

* *Answer **all** questions **on this paper itself**.*
* *Each question carries* **02** *marks.* (02 × 20 = 40 marks)
* The volume of a right circular cylinder base radius r and height h is $\pi r^2 h$. Take $\pi = \frac{22}{7}$.

Index Number:

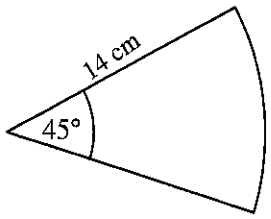
.....

.....
Invigilator's Signature

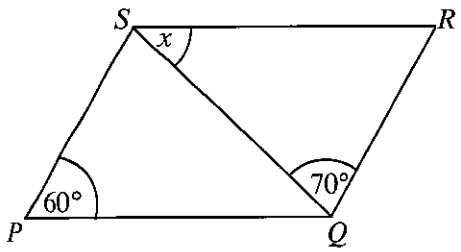
1. It has been estimated that 6 men can complete a certain task within 8 days. How many more men should be engaged to complete this task within 4 days?

2. Factorize : $9x^2 - 16$

3. Find the perimeter of the sector given in the diagram.



4. $PQRS$ is a parallelogram. $S\hat{P}Q = 60°$, $S\hat{Q}R = 70°$.
Find the value of x.



5. What is the total amount that Piyal, who deposits an amount of 50 000 rupees for 3 years in an institution at the simple interest rate 8% paid annually, receives at the end of 3 years?

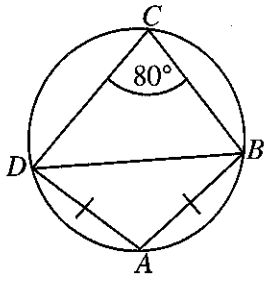
[See page two.

6. Find the volume of a right circular cylinder, base radius 7 cm and height twice the radius.

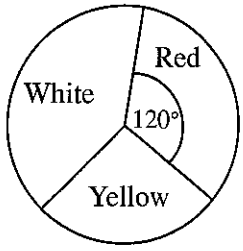
7. ε = {Positive integers less than 15}
P = {Multiples of 3, less than 15}
Q = {Square numbers less than 15}
Write the set $P \cap Q'$ in terms of its elements.

8. Find,
(i) the gradient
(ii) the intercept
of the straight line graph given by $2y = 4x + 5$.

9. The cyclic quadrilateral, $ABCD$ is shown in the diagram. $AD = AB$ and $D\hat{C}B = 80°$.
Find the magnitude of $A\hat{B}D$.



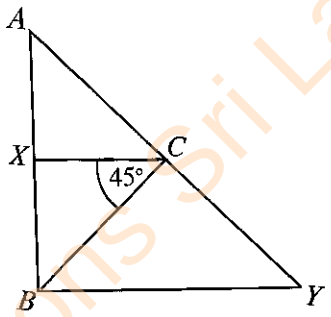
10. In a basket of flowers there were white flowers, yellow flowers and red flowers. The pie chart drawn to represent the number of flowers in each colour is shown below. If the sector that shows red flowers, represents eight flowers, find the total number of flowers there were in the basket of flowers.



[*See page three.*

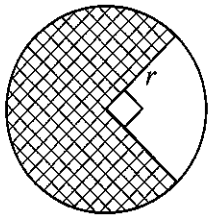
11. Nihal who invested 80 000 rupees in a company where the price of a share was 40 rupees, received 6 000 rupees as the dividend at the end of the year. What was the dividend paid for a share?

12. Mid point of AB of the triangle ABC is X. The side AC is produced up to Y so that $AC = CY$. According to the information given in the diagram, find the magnitude of $C\hat{B}Y$.

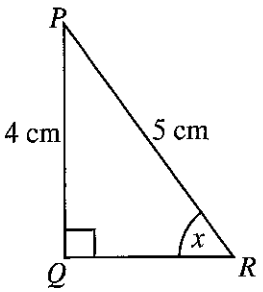


13. Write the positive integers that satisfy the inequality $2x + 4 \leq 7$.

14. Find the area of the shaded region of the diagram given, in terms of π and r.



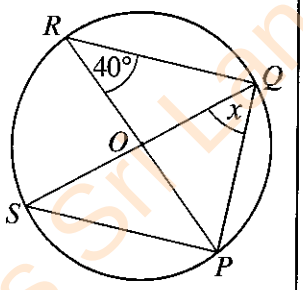
15. Find the value of cos x of the triangle PQR.



[See page four.

16. Simplify : $\begin{vmatrix} 2 & 3 \\ 5 & 4 \end{vmatrix} + \begin{vmatrix} 1 & -1 \\ 3 & 2 \end{vmatrix}$

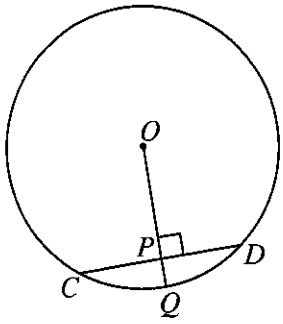
17. The points P, Q, R, S are located on the circle, centre O. If $P\hat{R}Q = 40^\circ$, find the value of x.



18. Factorize : $y^2 - 5y + 6$

19. What is the probability of occurring a triangular number when a fair dice of which the faces are numbered from 1 to 6, is rolled?

20. Of the circle centre O, CD is a chord 6 cm long. The radius OQ is perpendicular to CD. If $OP = 4$ cm, find the length of PQ.



* * *

06 E II

Question No.	Marks
1	
2	
3	
4	
Total Marks	

ශ්‍රී ලංකා විභාග දෙපාර්තමේන්තුව / இலங்கைப் பரீட்சைத் திணைக்களம் /
Department of Examinations, Sri Lanka

2568 - Piriven Ordinary Level Examination - 2024 (2025)

(06) Mathematics

Paper II

Three hours

Additional Reading Time - 10 minutes

Use **additional reading time** to go through the question paper, select the questions and decide on the questions that you give priority in answering.

Index Number: .....

* *Answer* ***all*** *questions in* ***Part A*** *and five questions from* ***Part B*** *.*

* *Use* $\frac{22}{7}$ *for the value of* π *.*

..... **Invigilator's Signature**

Part A

- Answer **all** the questions in **Part A** on this paper itself, attach to the answer script of **Part B** and handover.
- Each question carries **05** marks. (05 × 4 = 20 marks)

1. For a renovation of a '*Dana Sala*' (Alms Hall) of a temple, $\frac{2}{5}^{th}$ of the total required amount was donated by the '*Dayaka Sabha*' of the village and $\frac{1}{3}^{rd}$ of the balance amount was donated by the donors of the village.

(i) What fraction of the total required amount is the amount donated by the donors of the village?

.....

.....

(ii) What fraction of the total required amount is the balance amount needed for renovation of the '*Dana Sala*'?

.....

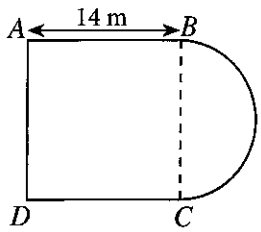
.....

(iii) If the balance amount needed is 8 000 Rupees, what is the total amount required for the renovation?

.....

.....

2. A flower bed consists of a square part whose side length is 14 cm and a semi circular part attached to it is shown in the diagram.



(i) Find the radius of the semi circular part.

.....

(ii) Find the perimeter of the flower bed.

.....

.....

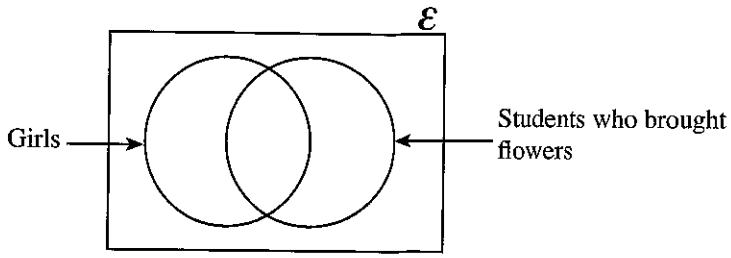
[See page two.

(iii) Find the area of the flower bed.

.....

.....

3. Of the students of a Damma School, where 44 students are girls, the number of girls who brought flowers on a certain day was 33.



(i) Indicate the given information in the Venn diagram given.

(ii) What was the number of girls who did not bring flowers?

.....

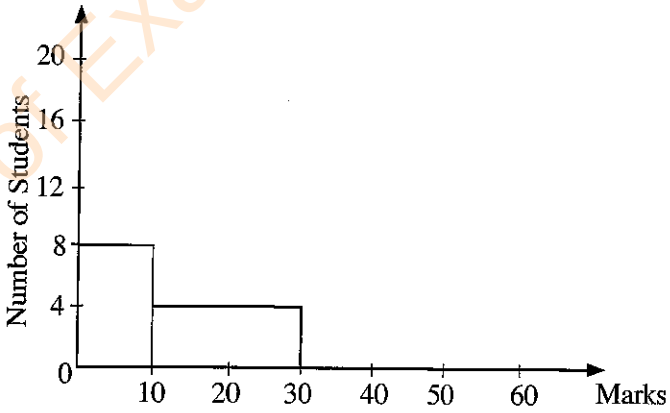
.....

(iii) If the total number of students in the Damma School was 90 and the total number of students who brought flowers was 55, what was the number of boys who did not bring flowers?

.....

.....

4. An incomplete Histogram drawn based on the marks scored by a group of students who sat a Mathematics Test is given below.



(i) What is the number of students, who scored marks in the interval 0 - 10?

.....

(ii) If the number of students who scored marks in the interval 30 - 60 is 24, illustrate it in the Histogram.

.....

.....

(iii) What is the total number of students who sat the test?

.....

.....

0147

06 E II

ශ්‍රී ලංකා විභාග දෙපාර්තමේන්තුව / இலங்கைப் பரீட்சைத் திணைக்களம் / Department of Examinations, Sri Lanka

2568 - Piriven Ordinary Level Examination - 2024 (2025)

(06) Mathematics

Paper II

Part B

* Answer **five** questions **only**. Each question carries **08** marks.

[The volume of a right circular cylinder, base radius r and height h is $\pi r^2 h$.
The volume of a right circular cone, base radius r and height h is $\frac{1}{3}\pi r^2 h$.]

5. In a hall, the seats have been arranged as follows.

There are 20 seats in the front row. From the second row, the seats have been arranged in such a way that the number of seats in every row from the front is, 4 more than that of the previous row respectively.

(i) How many seats are there in the tenth row?

(ii) In which row are there 64 seats?

(iii) Nimal states that the total number of seats in first 20 rows is more than 1170. Is this statement true? Justify your answer.

6. An incomplete table of values prepared to draw the graph of the function $y = (x - 1)^2 - 2$ is shown below.

x	-2	-1	0	1	2	3	4
y	7	2	-1	-2	...	2	7

(i) (a) Find the value of y when $x = 2$.

(b) Using an appropriate scale and the standard system of axes, draw the graph of the above function on the graph paper provided.

(ii) Using your graph,

(a) find the minimum value of the function.

(b) write the interval of values of x, where the function increases negatively.

(c) find the co-ordinates of the minimum point of the graph of the function, $y = (x - 1)^2 - 7$.

7. Use only a straight edge with cm/mm scale and a pair of compasses for the geometrical construction given below.

(i) Construct the triangle so that $AB = 6$ cm, $BC = 4$ cm and $A\hat{B}C = 90°$.

(ii) Construct the bisector of $A\hat{C}B$ and name the point it meets AB as O.

(iii) Construct the circle centre O and radius OB.

(iv) Give reasons for BC being a tangent to the circle.

[See page four.

8. (i) Solve : $\frac{2x+1}{5} + \frac{x}{2} = 2$.

(ii) (a) The price of 3 pencils is equal to the price of 2 pens. Rs. 150 is needed to buy 3 pencils and 8 pens. Taking that the price of a pencil is Rs. x and the price of a pen is Rs. y, construct a pair of simultaneous equations.

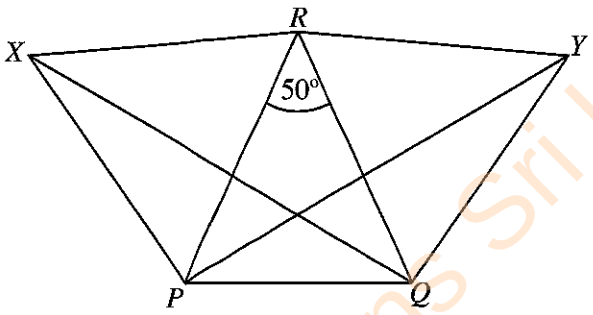
(b) By using the pair of equations, find the price of a pencil and the price of a pen separately.

9. (i) PXR and QRY are two equilateral triangles drawn on the sides of PR and QR of the triangle PQR. It is given that $P\hat{R}Q = 50°$. Find the magnitudes of the following angles.

(a) $X\hat{P}R$

(b) $X\hat{R}Q$

(c) $R\hat{P}Y$ if $RP = RY$



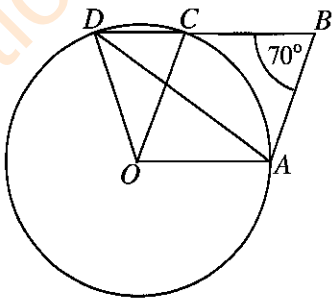
(ii) The points A, C and D are located on the circle, centre O. In the diagram $OABC$ is a parallelogram, $A\hat{B}C = 70°$.

Find the magnitudes of the following angles.

(a) $A\hat{O}C$

(b) $A\hat{D}C$

(c) $D\hat{A}B$



10. The following distribution has been prepared by using the information related to the ages of the participants in a certain medical clinic.

Age (in years)	No. of participants (f)	Mid value (x)	fx
0 - 10	2	.....	.....
10 - 20	4	.....	.....
20 - 30	7	.....	.....
30 - 40	8	.....	.....
40 - 50	10	.....	.....
50 - 60	6	.....	.....
60 - 70	3	.....	.....

(i) Copy down this table onto your answer script and complete the column x and the column fx.

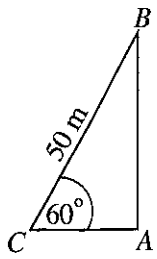
(ii) According to the above information, which age group do the most participants participated in the clinic belong to?

(iii) What is the mean age of a participant participated in the clinic?

(iv) The organizers are in need of organizing this type of clinics monthly, continuously for 12 months. What would be the total number of participants expected to be participated in the clinics during 12 months?

[*See page five*

11. (i) A post AB is installed vertically on a horizontal ground. There is a child at the point C. The length of a wire drawn from C to B is 50 m.



By using the information given in the diagram and trigonometric ratios, find the height of the post AB.

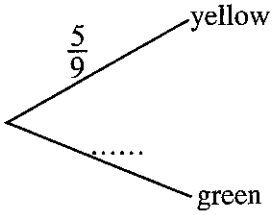
$\left(\sin 60^\circ = \frac{\sqrt{3}}{2},\ \cos 60^\circ = \frac{1}{2},\ \tan 60^\circ = \sqrt{3}\right)$

(ii) Of a solid right circular cone, base radius is 7 cm and height is 12 cm.

(a) Find the volume of the cone.

(b) Find the base radius of a right circular cylinder of which the volume is equal to the volume of the cone mentioned above and the height is thrice the height of the cone.

12. In a box there are 5 yellow colour cards and 4 green colour cards of the same size and same shape. One card is randomly drawn out of this box.



(i) Copy down this incomplete tree diagram onto your answer script and write the probability relevant to the blank.

(ii) If another card also is randomly drawn out without putting the previously drawn card back in the box, extend the tree diagram so that the probabilities related to the second event are indicated in the diagram.

(iii) Find the probability of both the cards drawn out being in a same colour.

(iv) Find the probability of the two cards drawn out being in two colours.

* * *

Department of Examinations Sri Lanka