

Final Examination 2024-2025

Form 1
173 students

MATHEMATICS
Paper II
Time Allowed: 1 hour

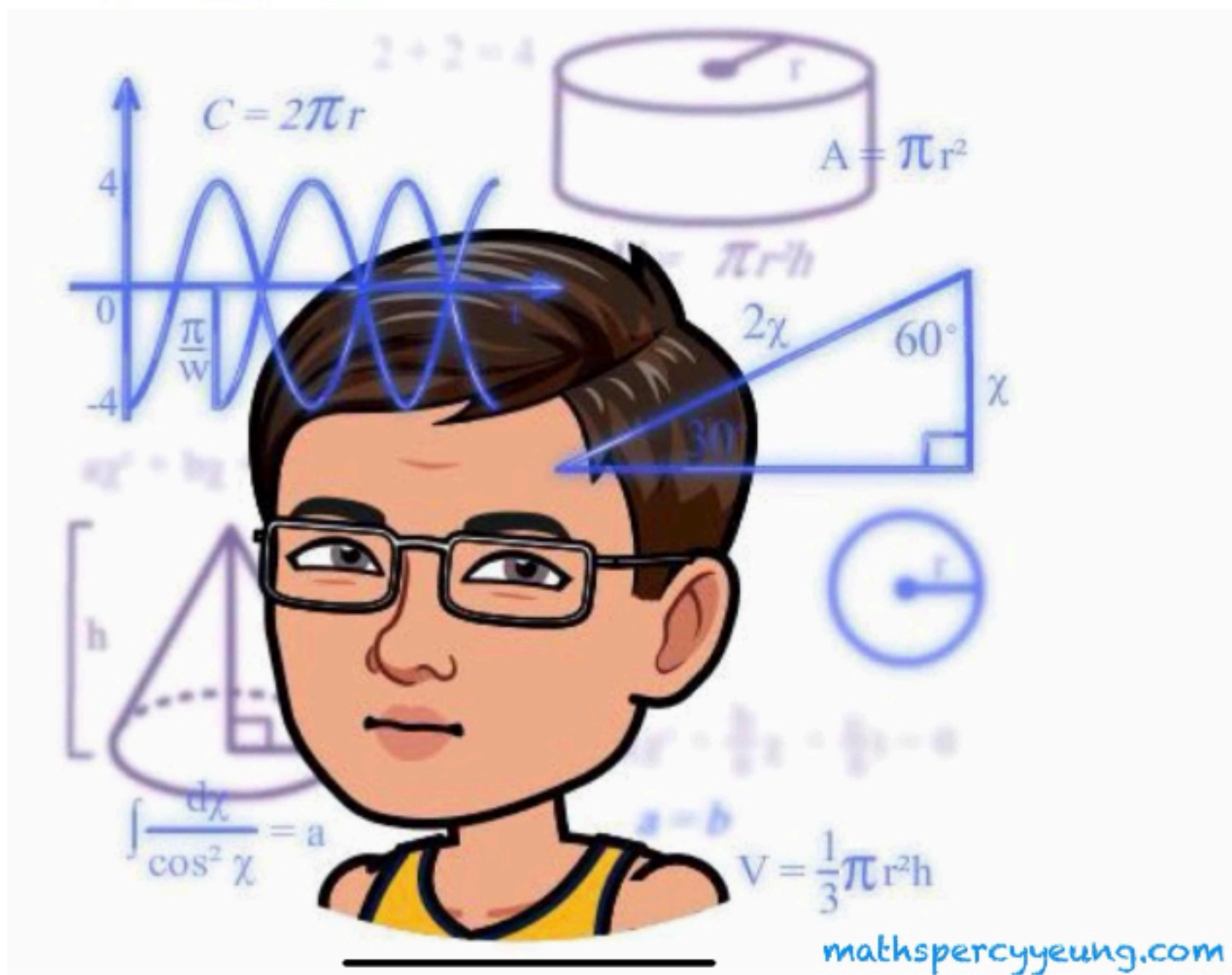
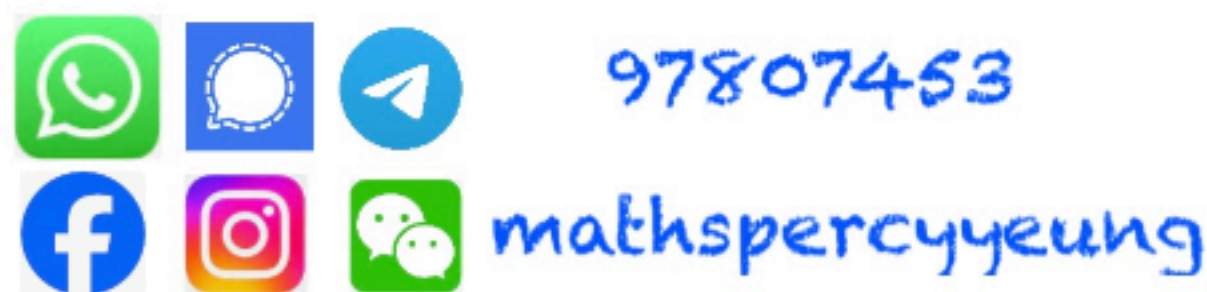
Name: _____ Class No. _____ Class: _____ Division: _____

Please read the following instructions very carefully.

- Answer *ALL* questions in the spaces provided in this *Question-Answer Paper*.
- All rough work should be done on the rough work paper provided, but will not be marked.
- The diagrams in this paper are not necessarily drawn to scale.
- This paper carries 100 marks.

Marks:

/ 100



	<u>Answers</u>	<u>Marks</u>
1. Find the H.C.F. of $2^3 \times 3^2 \times 7$, $2^2 \times 3^3 \times 5^2 \times 7^2$ and $2^2 \times 3 \times 5 \times 11$. Express your answer using index notation.	1. _____	2
2. $6\star 024$ is a 5-digit number, where $\star$ is an integer from 0 to 9 inclusive. If $6\star 024$ is divisible by 9, write down all the possible value(s) of $\star$.	2. _____	2
3. Find the sum of the smallest prime number and the largest prime number between 20 and 70.	3. _____	2
4. Arrange the following numbers in ascending order. $-\frac{8}{3}$, $\frac{10}{3}$, 3.3, -2.5	4. _____	2
5. Fill in the blank with a directed number for the expression $(+2) + (\quad) = -15$.	5. _____	2
6. Evaluate $20 \div (-5)^2 \times (-1)^5$.	6. _____	2
7. It is known that the school speech day will be on 11 December, 2025. If '+1 day' represents a day after the speech day i.e. 12 December, 2025. Express the date 29 November, 2025 in directed number.	7. _____	2
8. Which of the following expressions is not a polynomial? A. -8 B. pq^2 C. $\frac{2x}{y}$ D. $9bc - 4c$	8. _____	2
9. Consider the polynomial $-\frac{a^5}{3} + 4a^3b^7 + 9 - 6ab^2$. Find (a) the coefficient of a^5 term, (b) the constant term, (c) the order of the polynomial.	9. _____ (a) _____ (b) _____ (c) _____	1 1 1
10. Represent the following word phrase by algebraic expression: Divide the product of a and 5 by the square of n .	10. _____	2
	Subtotal:	/21

11. Expand and simplify $-7a(-2a + a^2 - 3)$. Arrange the terms in ascending powers of a .

12. Simplify $7p \times (3p + 5p - 10p)$.

13. If $x = -4$, find the value of the expression $\frac{6 - x^2}{3x + 7}$.

14. In the figure, the 1st pattern consists of 1 dot. For any positive integer n , the $(n+1)$ th pattern is formed by adding 3 dots to the n th pattern. Find the number of dots in the 7th pattern.



15. Solve the following equations.

(a) $2(a + 5) - 3(a - 3) = 4$

(b) $\frac{4(3b - 2)}{-5} = -12$

16. 7 times the sum of 4 and a number is -35 . Find the number.

17. The sum of three consecutive negative numbers is -261 . Find the largest number.

18. Tom and Jerry have \$870 in total. If Tom gives Jerry \$45, they will have the same amount of money. How much does Jerry have originally?

19. Mary pays \$20 to buy a pen at $$(4y - 5x)$. Find the change in terms of x and y .

20. If $p\%$ of 85 is 102, find the value of p .

21. The number of customers went to a shopping mall has decreased by 30% to 11200 this month. Find the number of customers last month.

22. The fare of an air ticket to Taiwan increases by \$270 today compared with that of yesterday. The increase is 18% of the ticket fare yesterday. Find the ticket fare today.

23. The base and the height of a triangle are 16 cm and 10 cm respectively. It is given that the base of the triangle is decreased by 25% and its height is increased by 10%. Find the percentage change in the area of the triangle.

11. _____ 2

12. _____ 2

13. _____ 2

14. _____ 2

15. _____

(a) _____ 2

(b) _____ 3

16. _____ 2

17. _____ 2

18. _____ 2

19. _____ 2

20. _____ 2

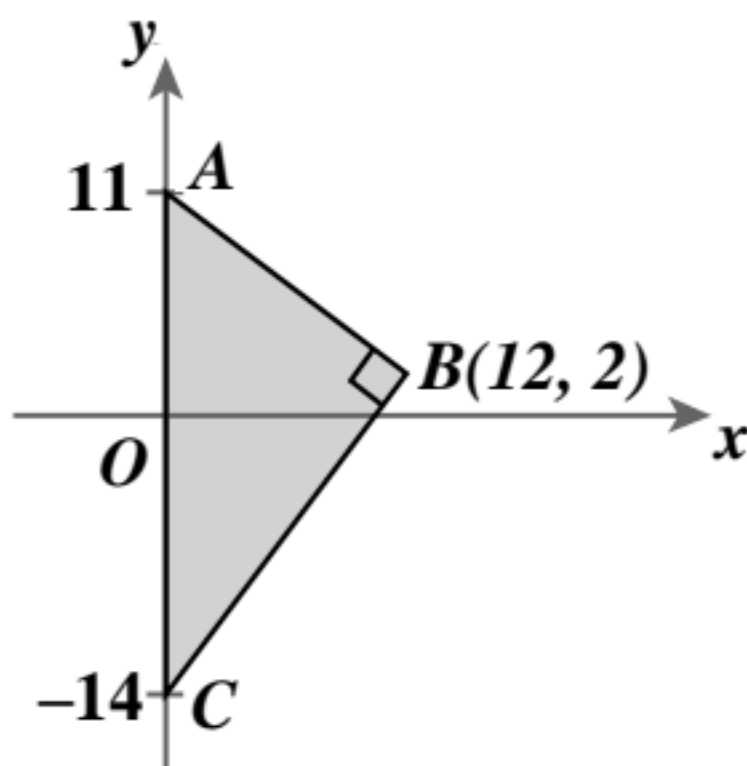
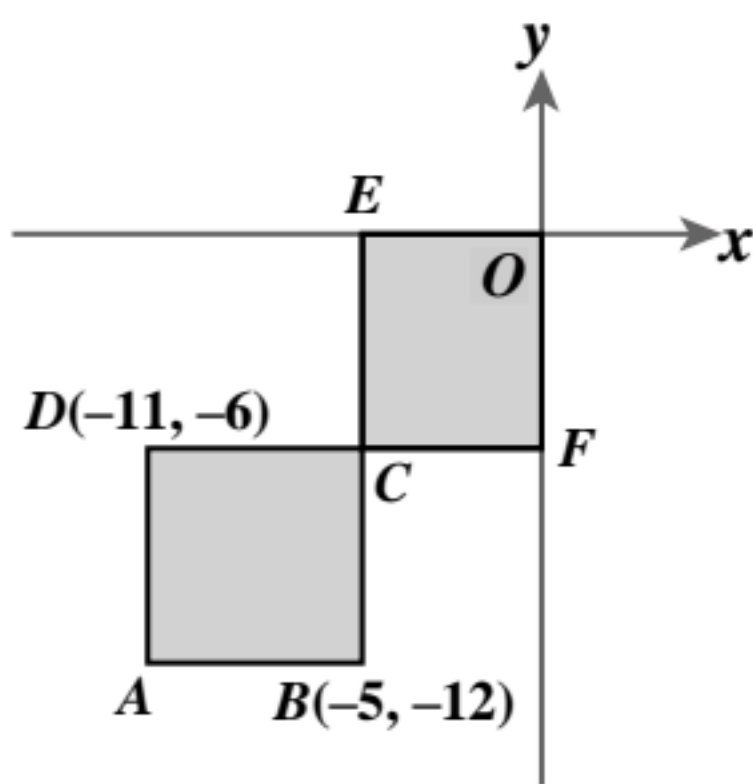
21. _____ 2

22. _____ 3

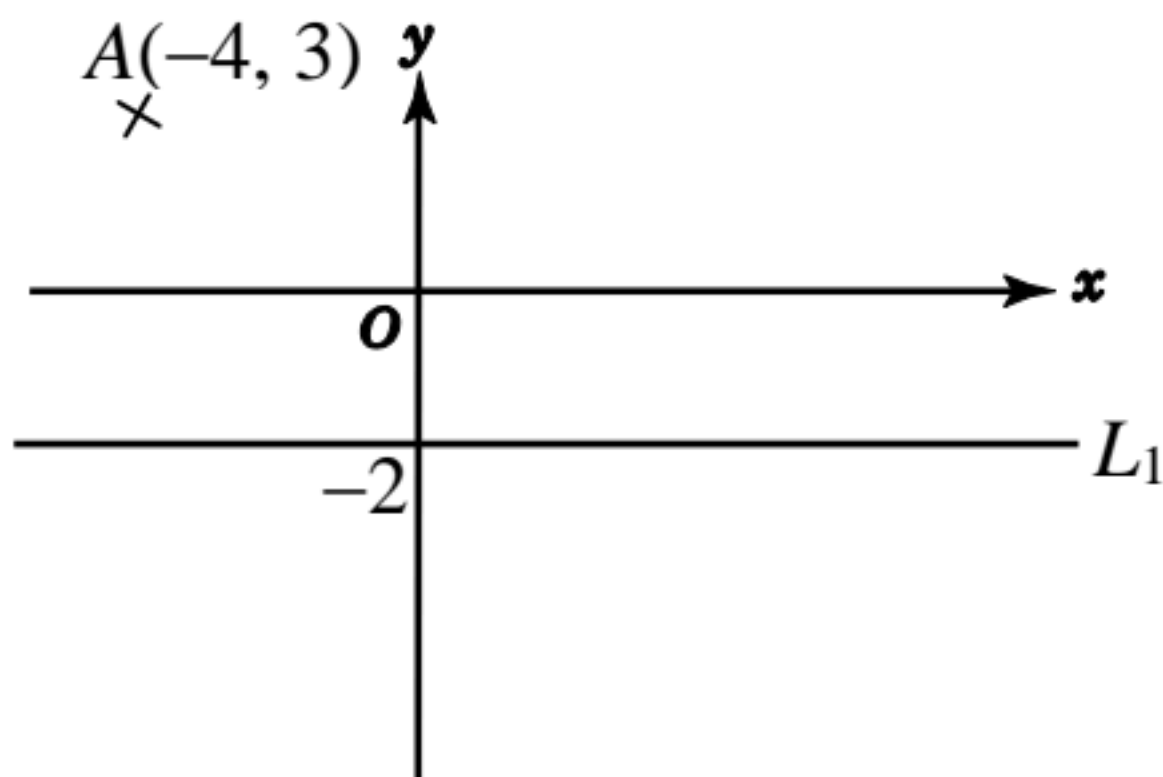
23. _____ 3

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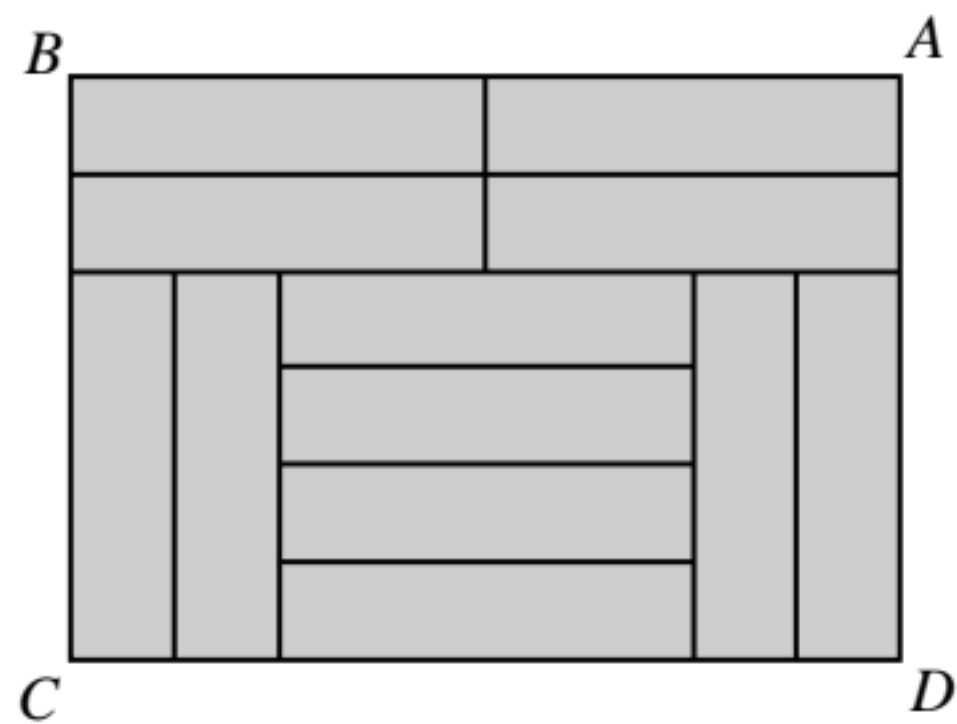
24. Janet sold a ring for \$1280 and made a profit of \$280. Find the percentage profit.
25. The marked price of a memory card is \$199 and it is sold at a discount of 20%. Find the discount.
26. John sold a printer at a loss of 8% and lost \$192.8. Find the selling price of the printer.
27. In the figure, AB and DCF are parallel to the x -axis, AD and BCE are parallel to the y -axis. If a model car moves from A to O along line segments AB , BC , CF and FO , find the total distance travelled by the model car.
28. In the figure, $\triangle ABC$ is a right-angled triangle. It is given that $BC = 15$ units. Find the length of AB .



29. If $A(5, -1)$ is reflected with respect to the x -axis, and then rotated clockwise about the origin through 90° to obtain A_1 , find the coordinates of A_1 .
30. If $A(-4, 3)$ is translated to the right by 5 units and then reflected with respect to L_1 to B , find the coordinates of B .

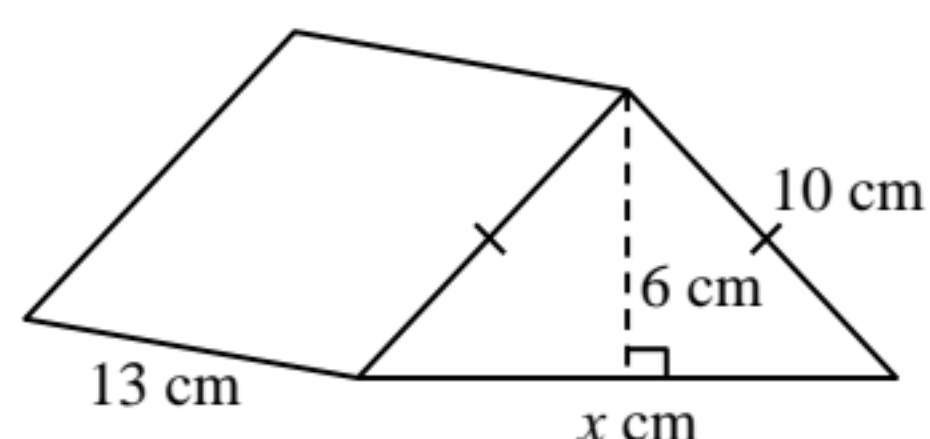


31. In the figure, the rectangle $ABCD$ is divided into 12 identical rectangles. If $AB = 32$ cm, find the area of rectangle $ABCD$.

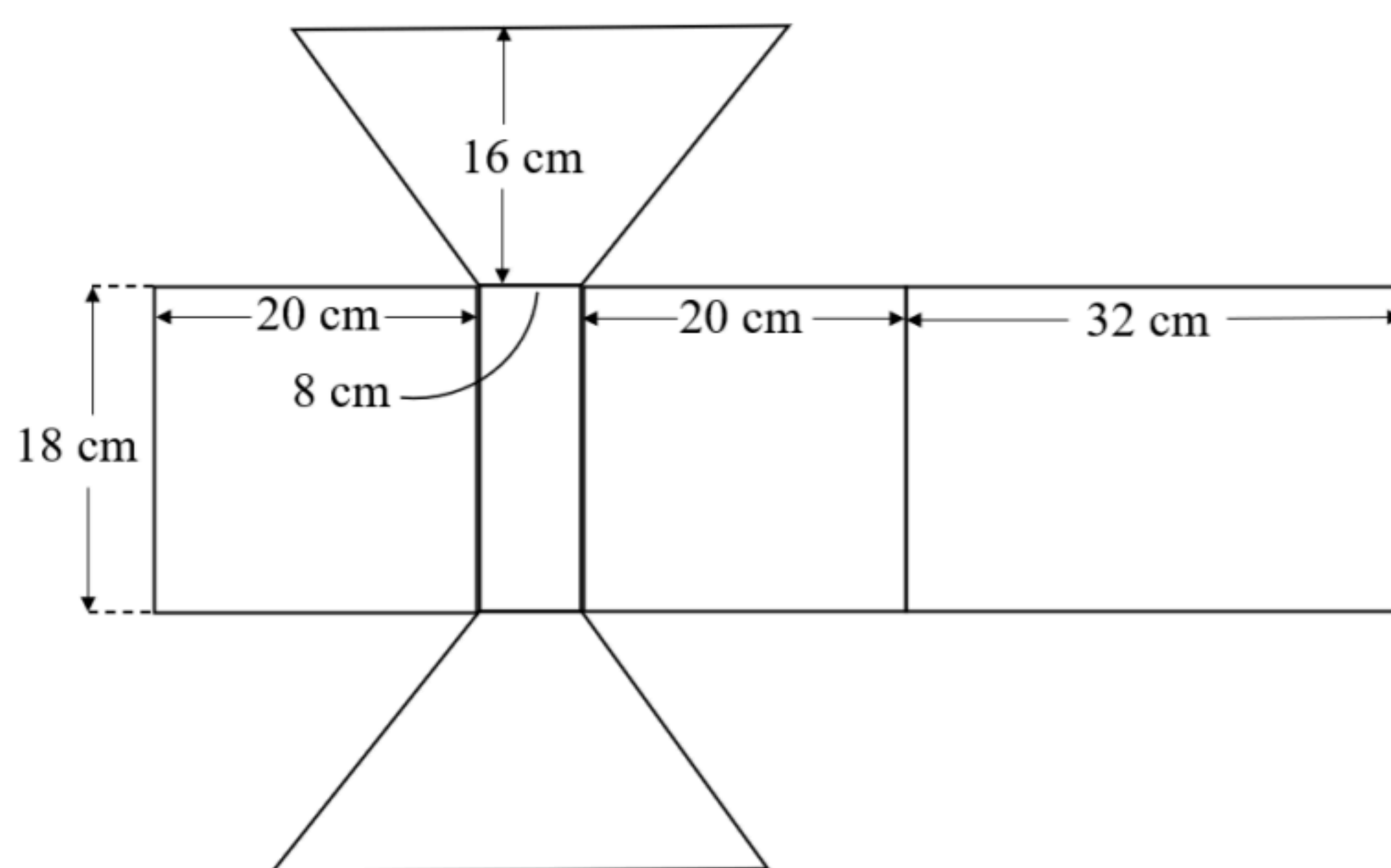


24. _____	2
25. _____	2
26. _____	2
27. _____	3
28. _____	3
29. _____	2
30. _____	2
31. _____	2
Subtotal:	/18

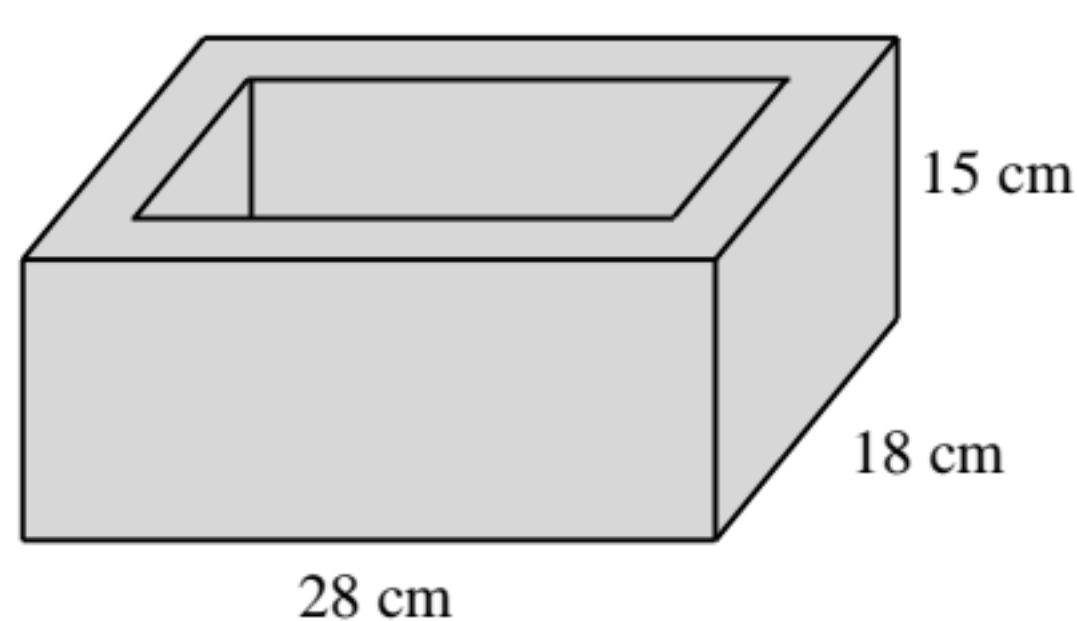
32. In the figure, the total surface area of the right prism is 564 cm^2 . Find the value of x .



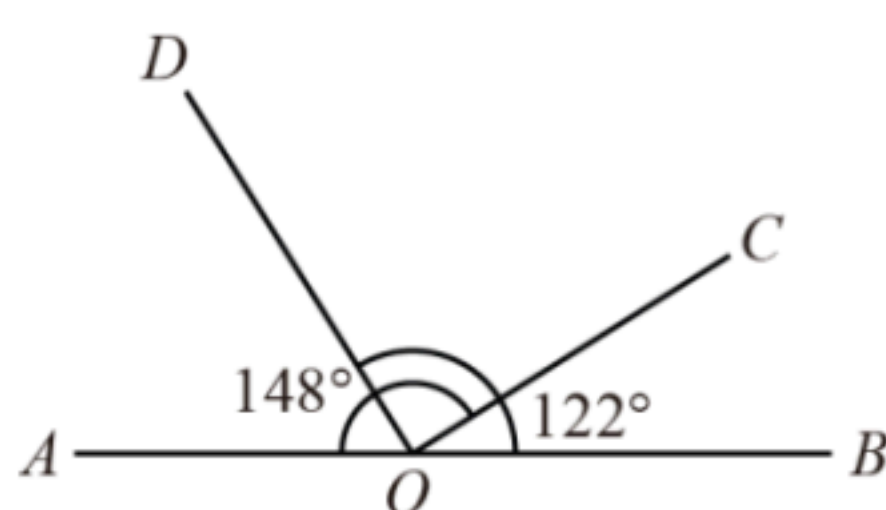
33. The figure below shows a net of a right prism. Its base is a trapezium. Find the volume of the right prism formed.



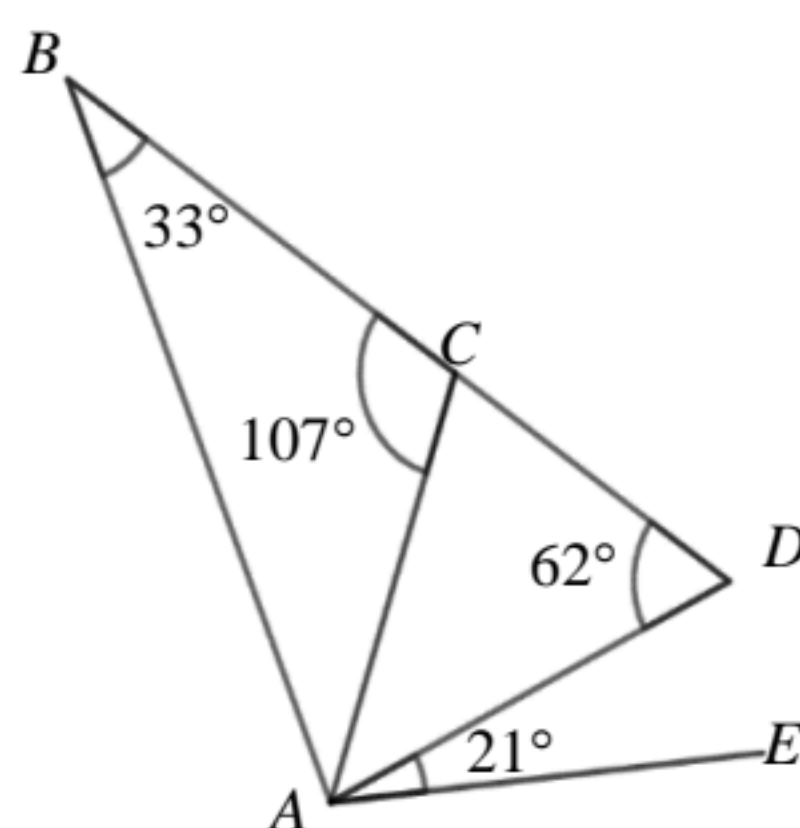
34. The figure shows a lidless rectangular metal container with uniform thickness 3 cm. Find
(a) the capacity of the container,
(b) the volume of the container.



35. In the figure, AOB is a straight line. If $\angle AOC = 148^\circ$ and $\angle BOD = 122^\circ$, find $\angle DOC$.



36. In the figure, BCD is a straight line.
(a) Find
(i) $\angle BAC$ and
(ii) $\angle CAE$.
(b) According to the sizes of the interior angles of the triangle, what type of triangle is $\triangle ADB$?



32. _____ 2

33. _____ 2

34. _____

(a) _____ 2

(b) _____ 2

35. _____ 2

36. (a) _____

(i) _____ 1

(ii) _____ 2

(b) _____ 2

Subtotal: /15

37. In the figure, $AB \parallel CD$, PQ and RS are transversals.

(a) Name ALL pairs of alternate angles.

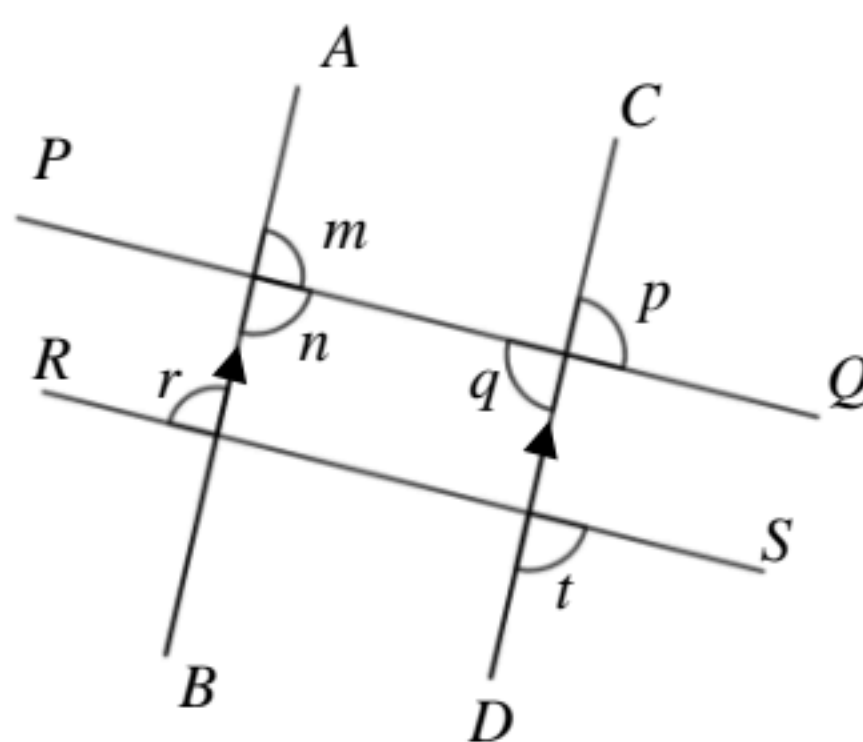
(b) Which of the following must be correct?

I. $r = n$

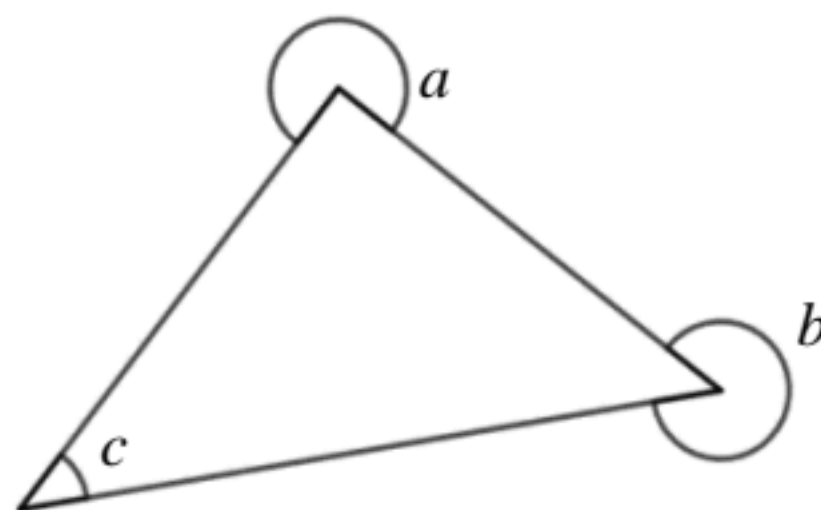
II. $r = t$

III. $m + t = 180^\circ$

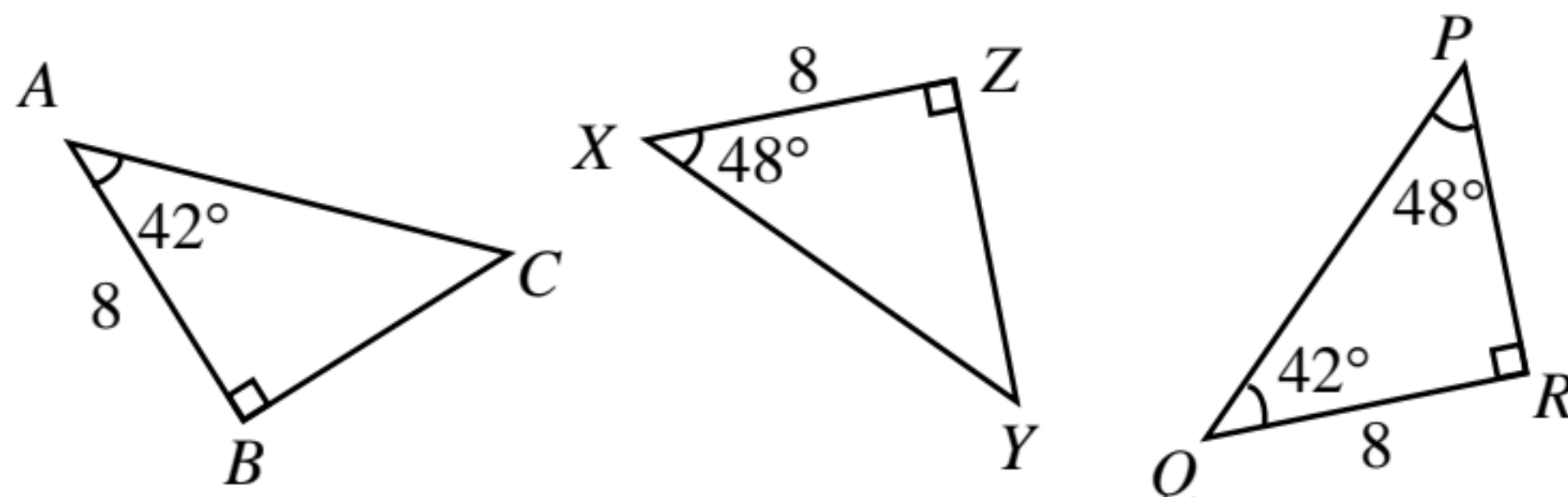
IV. $n + p = 180^\circ$



38. In the figure, find $a + b - c$.

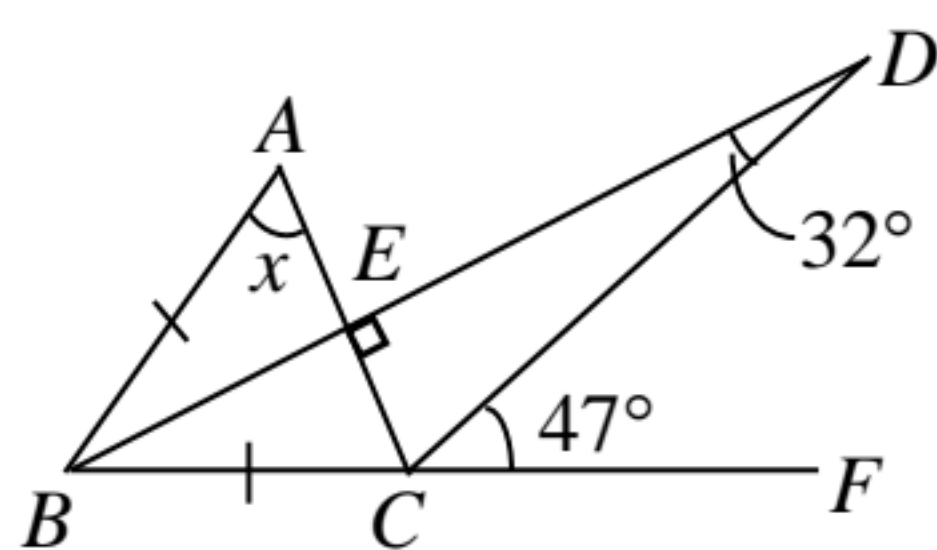


39. In the figure, name a pair of congruent triangles and give a reason.



40. It is given that $\triangle XYZ \cong \triangle QPR$. If $\angle Z = 4x - 10^\circ$, $\angle Q = 39^\circ$ and $\angle P = 67^\circ$, find the value of x .

41. In the figure, $AB = CB$, AEC , BED and BCF are straight lines. Find the value of x .



37.

(a) _____

(b) _____

38. _____

39. _____

Reason: (_____)

40. _____

41. _____

Subtotal:

2

2

3

2

1

3

2

/15

– END OF PAPER –