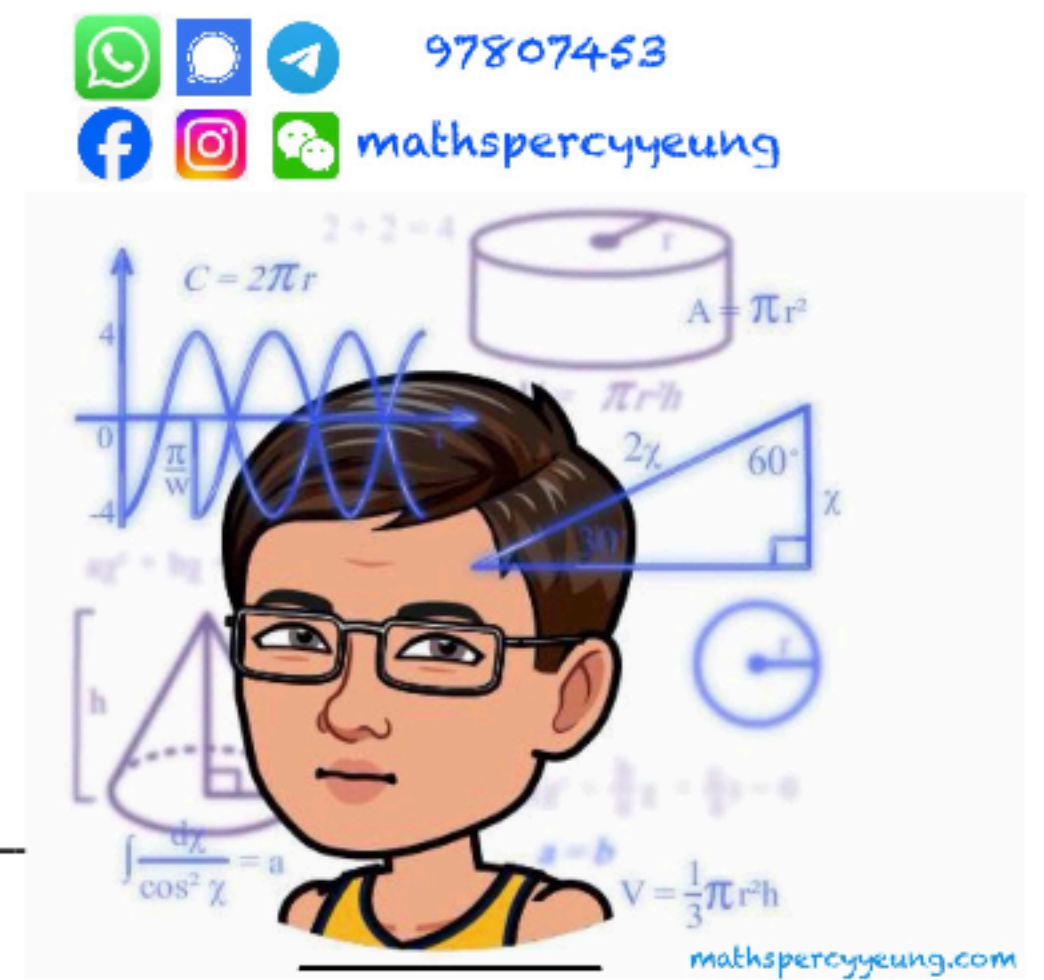


Final Examination 2021-2022

Form 1
160 students

MATHEMATICS
Paper II
Time Allowed: 1 hour

Name: _____ Class No. _____ Class: _____



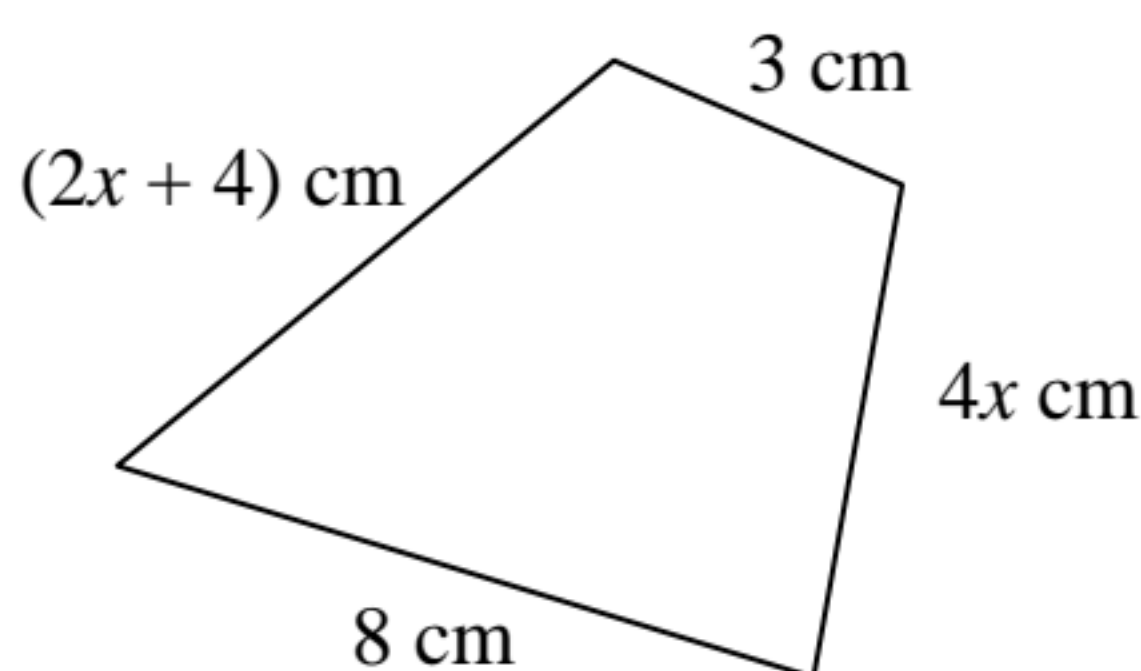
Please read the following instructions very carefully.

- 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

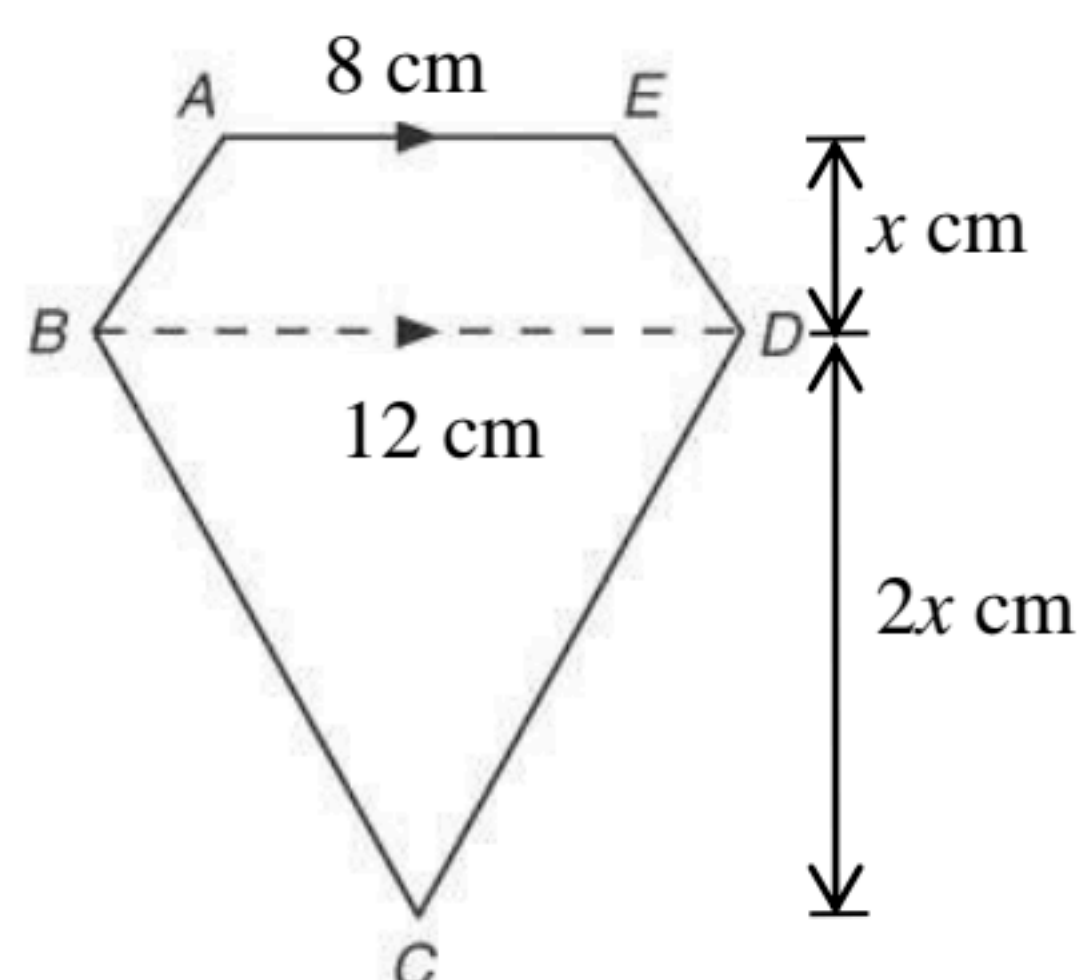
- Arrange the following numbers in ascending order.
 $2.5, -\frac{1}{4}, 0, \frac{7}{3}, -\frac{3}{5}, 3$
- Evaluate $\frac{(-2)^3}{4} - (-3)^2$.
- Find the L.C.M. of $2^2 \times 7$, 2×3^2 and 3×5^2 .
- Find the difference between the largest prime number and the smallest prime number between 40 and 50.
- If 200 packs of masks and 60 bottles of hand sanitizers are divided evenly among a group of students, 5 packs of masks but no hand sanitizers are left. Find the maximum number of children in the group.
- Simplify the following expressions.
(a) $4x + 6x \times 3$
(b) $9m + 3n - (6n + 2m)$
- There are 16 bottles of mineral water in a box. If a bottle of mineral water costs \$5, how much do x boxes of mineral water cost?
- Solve the equation $3(2x - 5) = -6$.
- Solve the equation $\frac{21 - q}{4} = \frac{q}{2} + 5$.
- In the figure, the perimeter of the quadrilateral is 24 cm. Find the value of x .



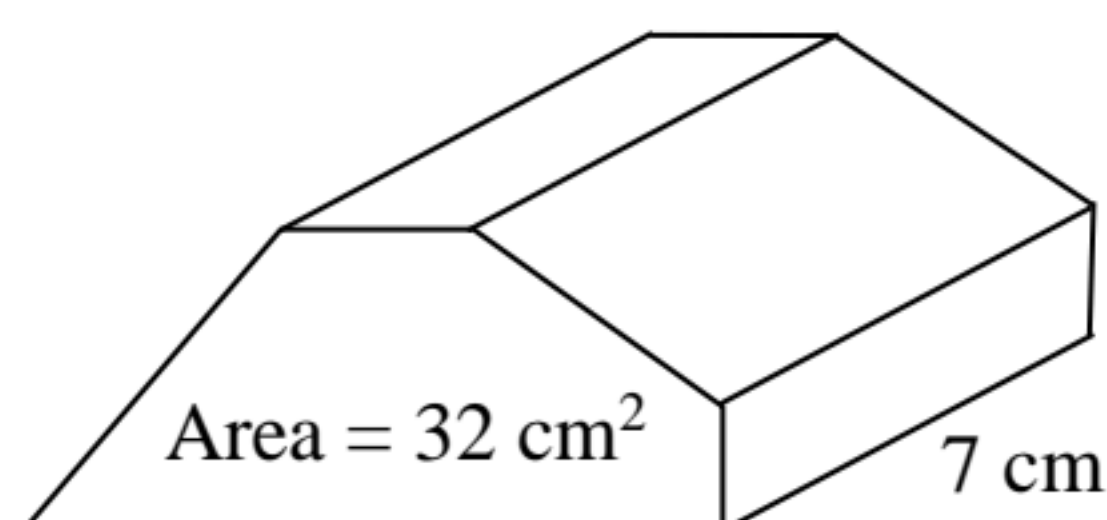
- Jacky's weight is 12 kg less than twice that of Alice. If their total weight is 96 kg, find the weight of Alice.
- Macy has a number of \$2 coins and \$5 coins. The number of \$2 coins is 14 more than 3 times that of \$5 coins. If the total value of \$2 coins is 4 times that of \$5 coins, find the total value of the coins.
- Nikki has 40 dresses, with 10% of them being pink and 20% being purple. Find the total number of pink and purple dresses Nikki has.

<u>Answers</u>	<u>Marks</u>
1. _____	2
2. _____	3
3. _____	2
4. _____	3
5. _____	3
6. _____	
(a) _____	2
(b) _____	2
7. _____	2
8. $x =$ _____	2
9. $q =$ _____	3
10. _____	2
11. _____	2
12. _____	3
13. _____	2
<u>Subtotal:</u>	/33

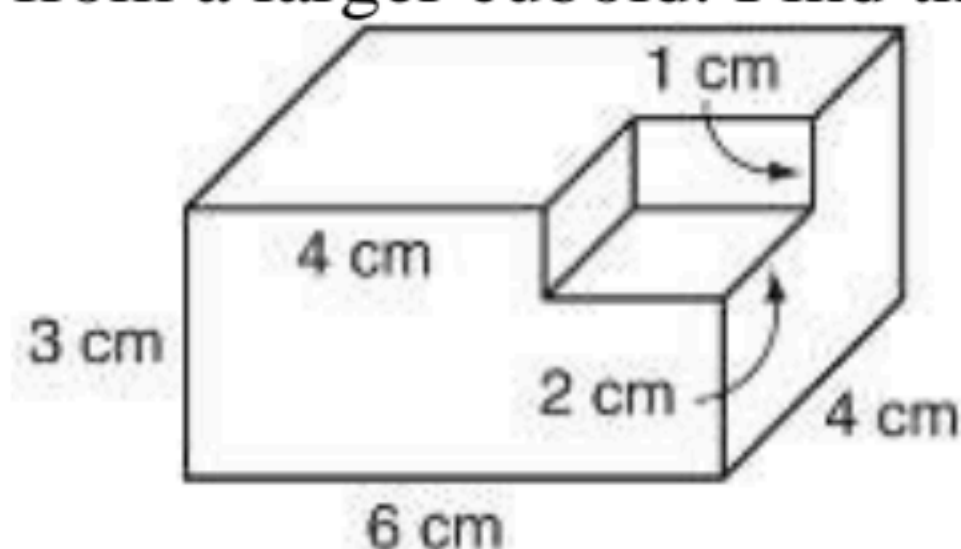
14. Among 120 balls in a box, 35% of them are red and there are 48 green balls. If the rest of the balls are blue, what percentage of the balls are blue?
15. The current age of Carmen is 25% of her father's. After 9 years, her age will be 40% of her father's. Find the current age of Carmen's father.
16. When a monitor is sold for \$1513, the percentage loss is 15%. Find the cost of the monitor.
17. An air fryer with a marked price of \$2250 is sold at a discount of \$540. Find the percentage discount.
18. In the figure, if the area of polygon $ABCDE$ is 66 cm^2 , find the value of x .



19. Find the volume of the right prism as shown in the figure.



20. The solid in the figure is formed by removing a smaller cuboid from a larger cuboid. Find the total surface area of the solid.



21. Write down the coefficient of the p^2 term in the polynomial

$$-\frac{5p^2}{2} - \frac{p}{3} + 2p^3 - 4.$$

14. _____	3
15. _____	3
16. _____	2
17. _____	2
18. _____	3
19. _____	2
20. _____	3
21. _____	2
<u>Subtotal:</u>	/20

22. Which of the following polynomials has the highest order?

A. $6xy^2 + 2x^2 - \frac{y}{3}$

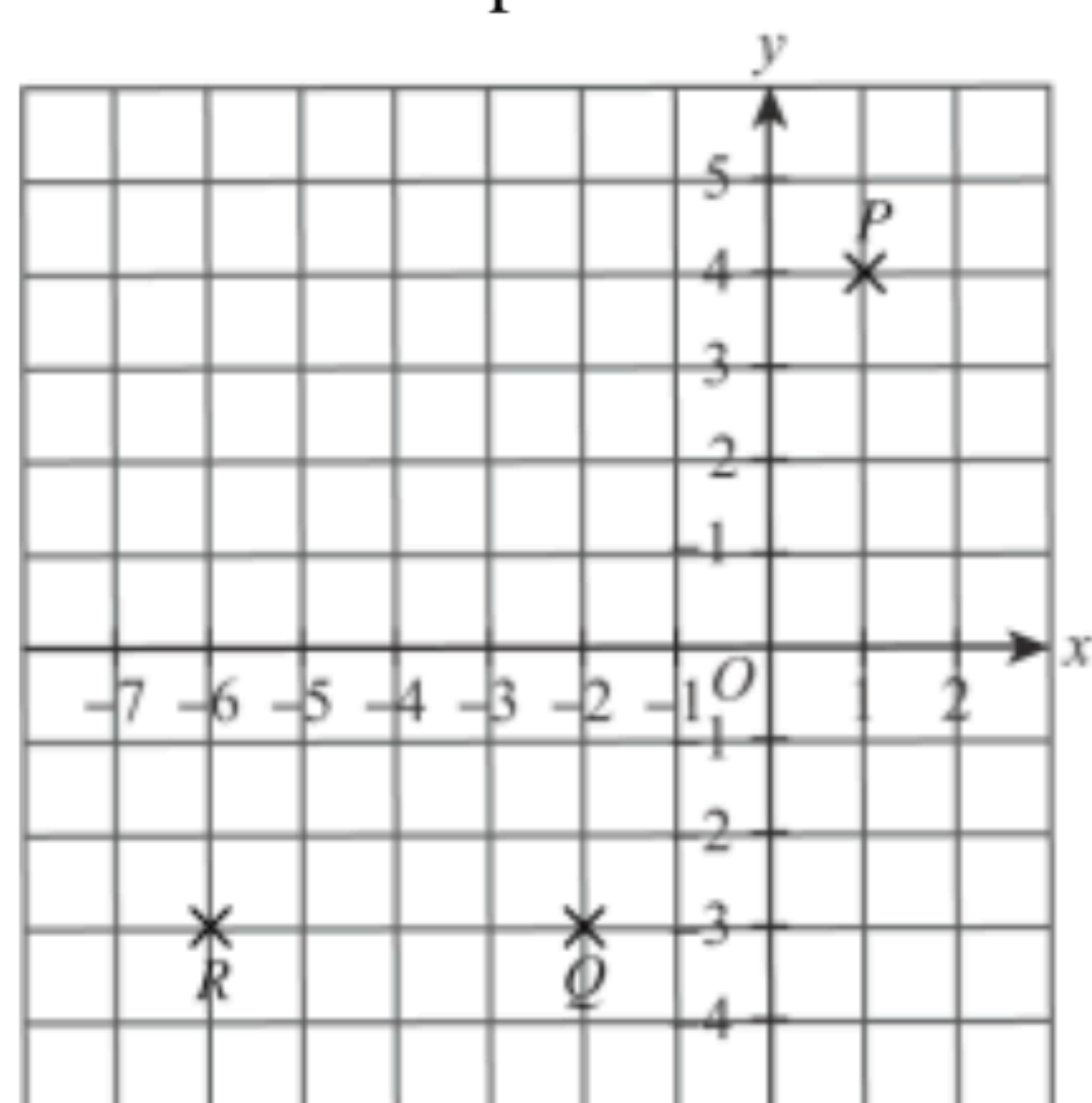
B. $-3x + 9x^2 + 20$

C. $\frac{ab}{2} - a^2b^2$

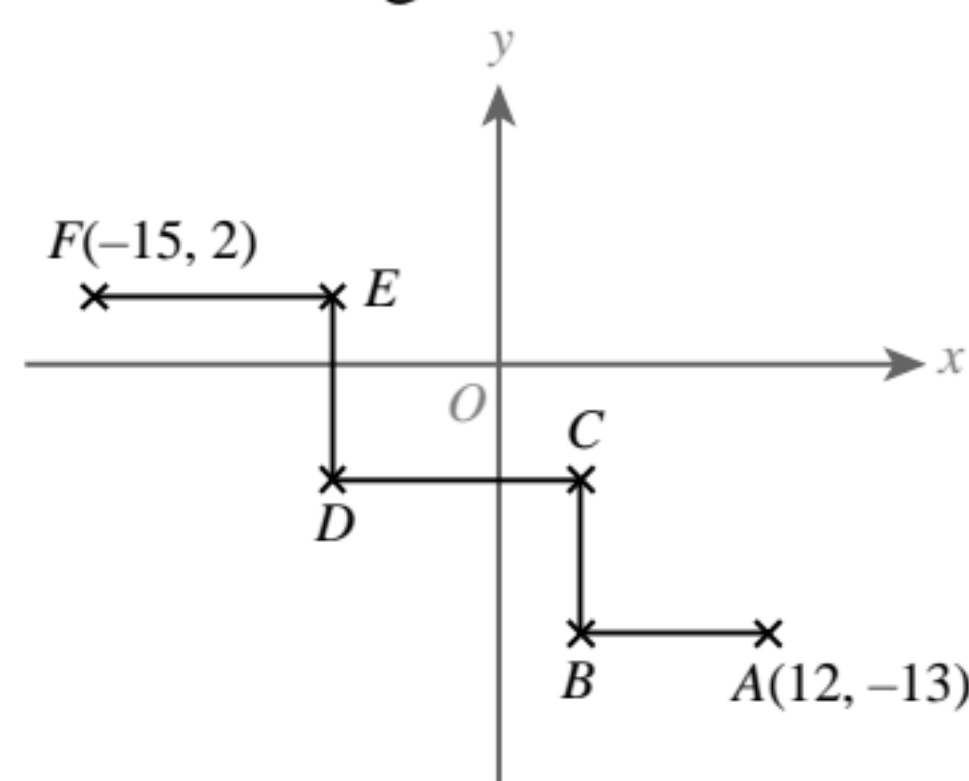
23. If $a^m = 9$ and $a^n = 2$, find the value of a^{2m-n} .

24. If $8a^{n-3}b^4$ and $-4b^{9-5m}a^2$ are like terms, find the sum of $2m$ and n .

25. The figure shows three points P , Q and R on a rectangular coordinate plane. If P , Q , R and S form a parallelogram, find the coordinates of point S .



26. In the figure, AB , CD and EF are horizontal line segments. BC and DE are vertical line segments. Find the total length of the five line segments.



27. If the line segment joining the two points $A(4x-3, 2x+1)$ and $B(x+3, x-3)$ is parallel to the y -axis, find the value of x .

28. $A(a, b)$, where $a < b < 0$, is reflected with respect to the y -axis to B , then B is reflected with respect to the x -axis to C . Lastly, C is reflected with respect to the y -axis to D . Write down the coordinates of D .

29. If $P'(6, -2)$ is the image of point P after it is rotated anticlockwise about the origin through 90° , find the coordinates of P .

22. _____ 2

23. _____ 3

24. _____ 3

25. _____ 3

26. _____ 3

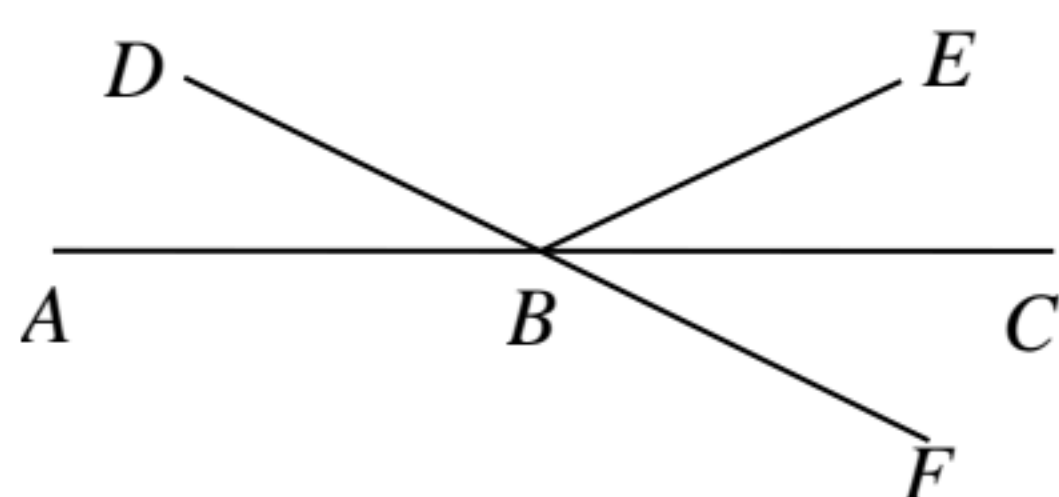
27. _____ 3

28. _____ 2

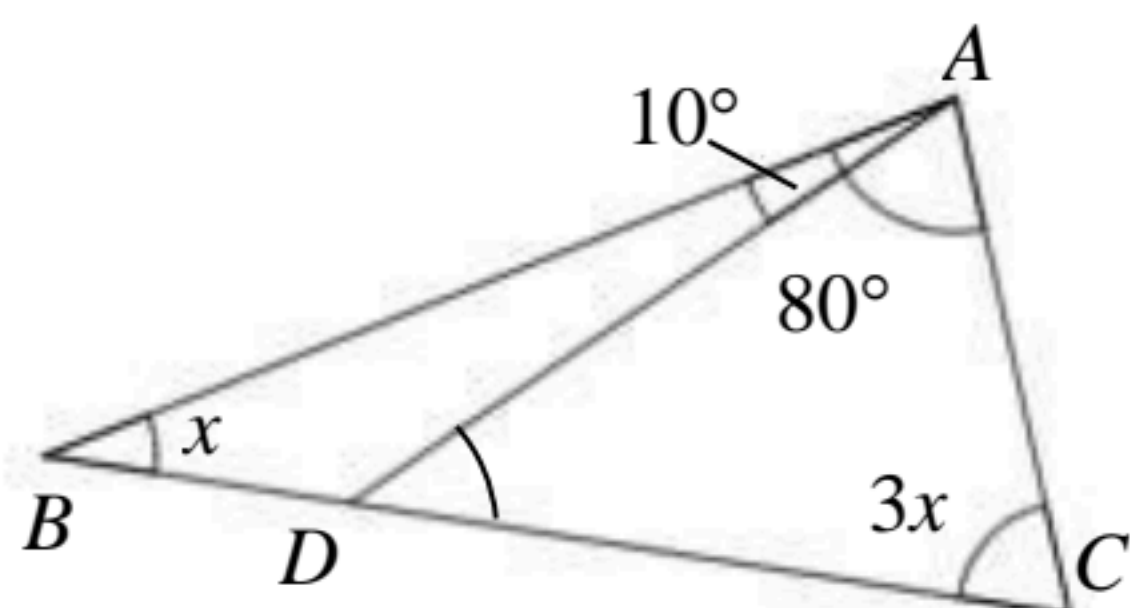
29. _____ 2

Subtotal: _____ /21

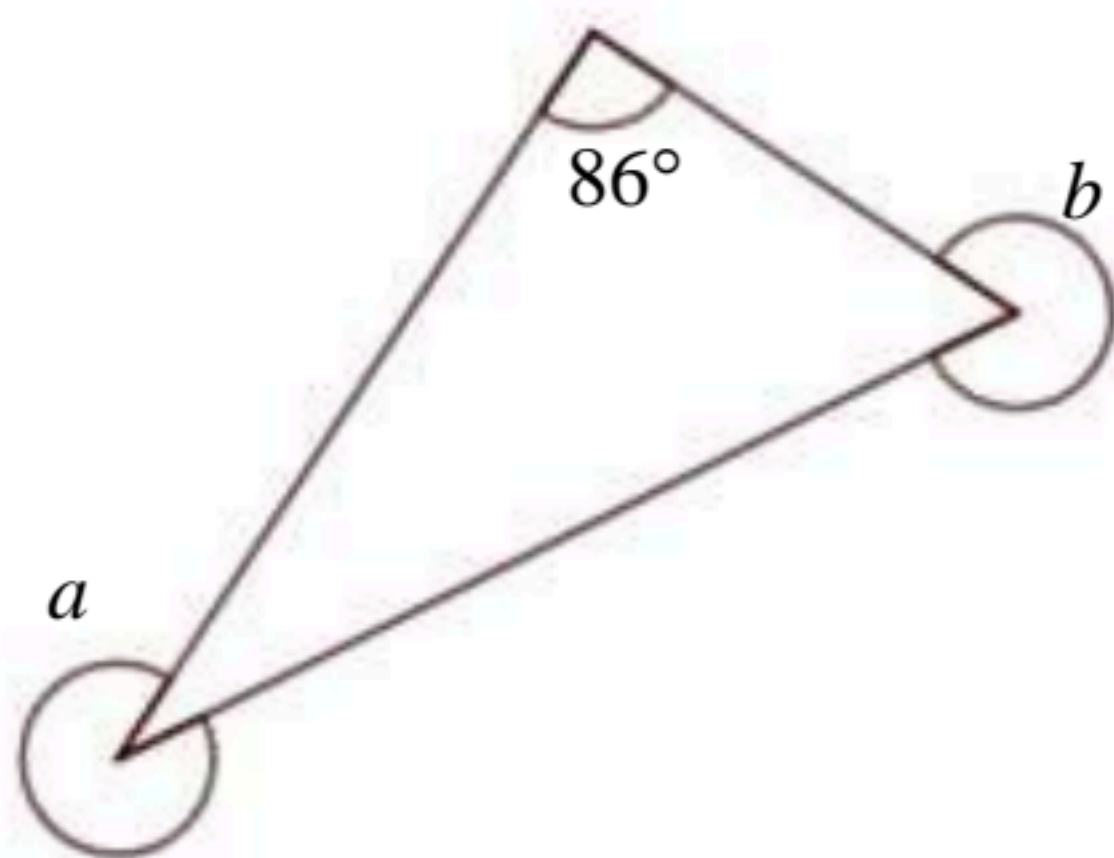
30. Find the reflex angle between the hour hand and the minute hand of a clock when the time is 4:00.
31. In the figure, ABC and DBF are straight lines. If $\angle ABE = \angle DBC = 140^\circ$, find $\angle EBF$.



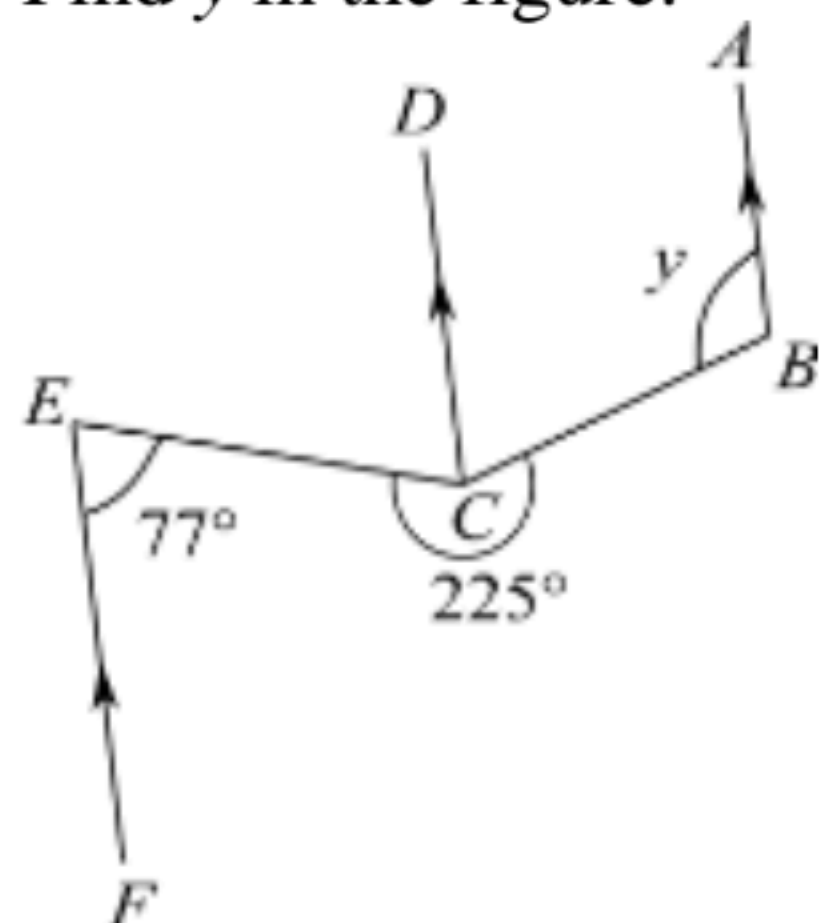
32. In the figure, BDC is a straight line. If $\angle BAD = 10^\circ$, $\angle BAC = 80^\circ$, $\angle ABC = x$ and $\angle ACB = 3x$, find $\angle ADC$.



33. In the figure, find the value of $a + b$.



34. Find y in the figure.



30. _____ 3

31. _____ 3

32. _____ 3

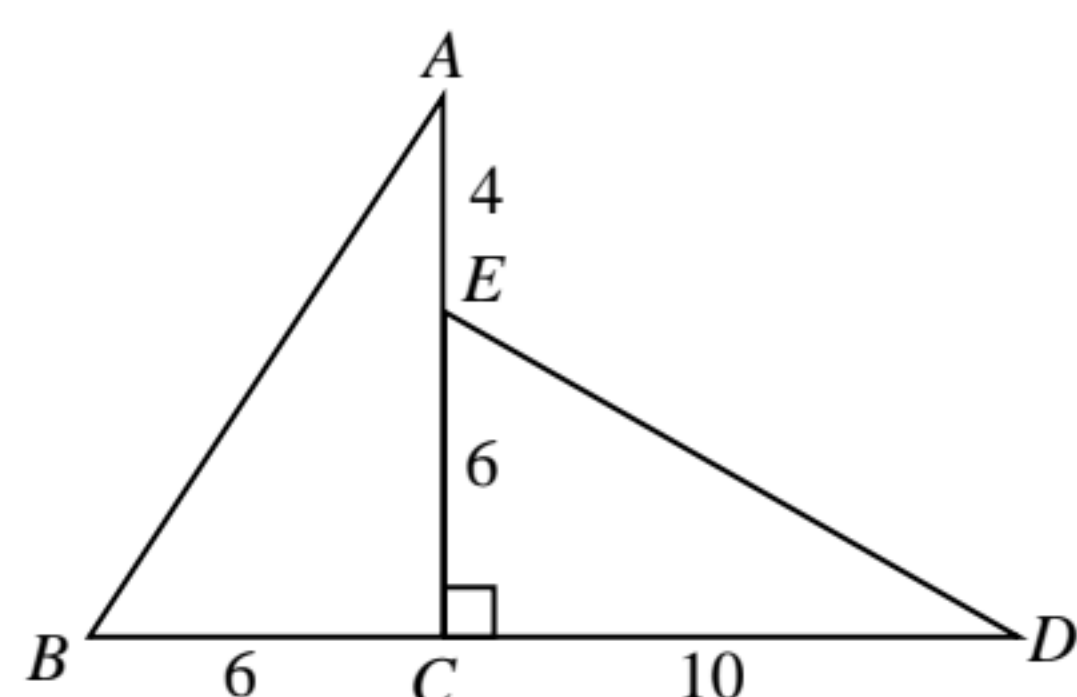
33. _____ 3

34. _____ 3

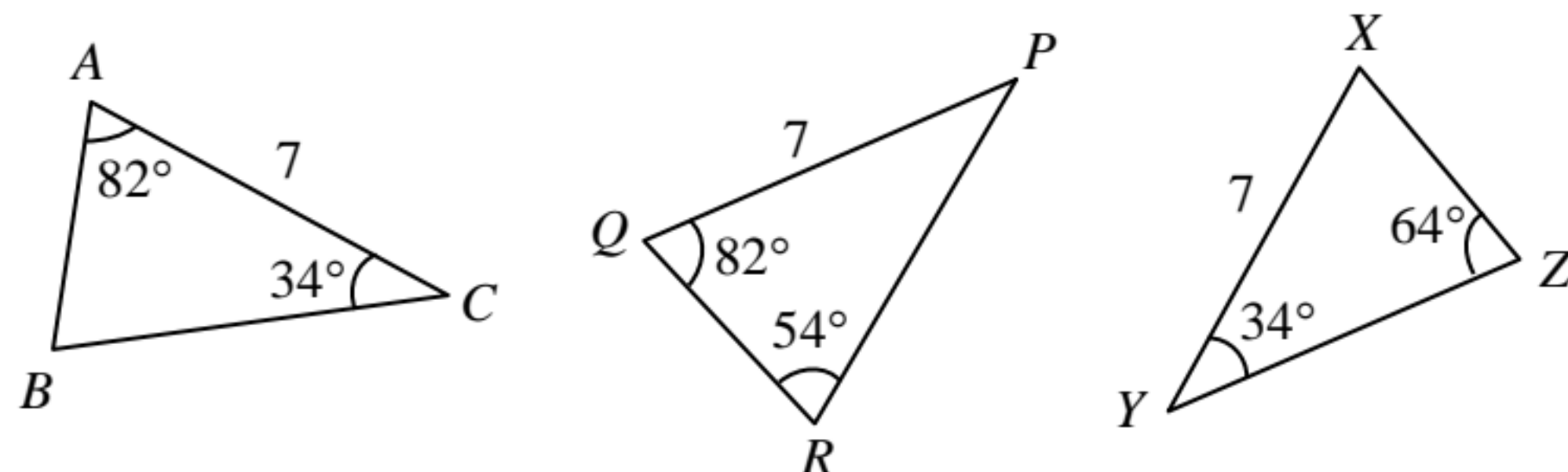
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/15

35. In the figure, BCD and AEC are straight lines. Name a pair of congruent triangles and give a reason.

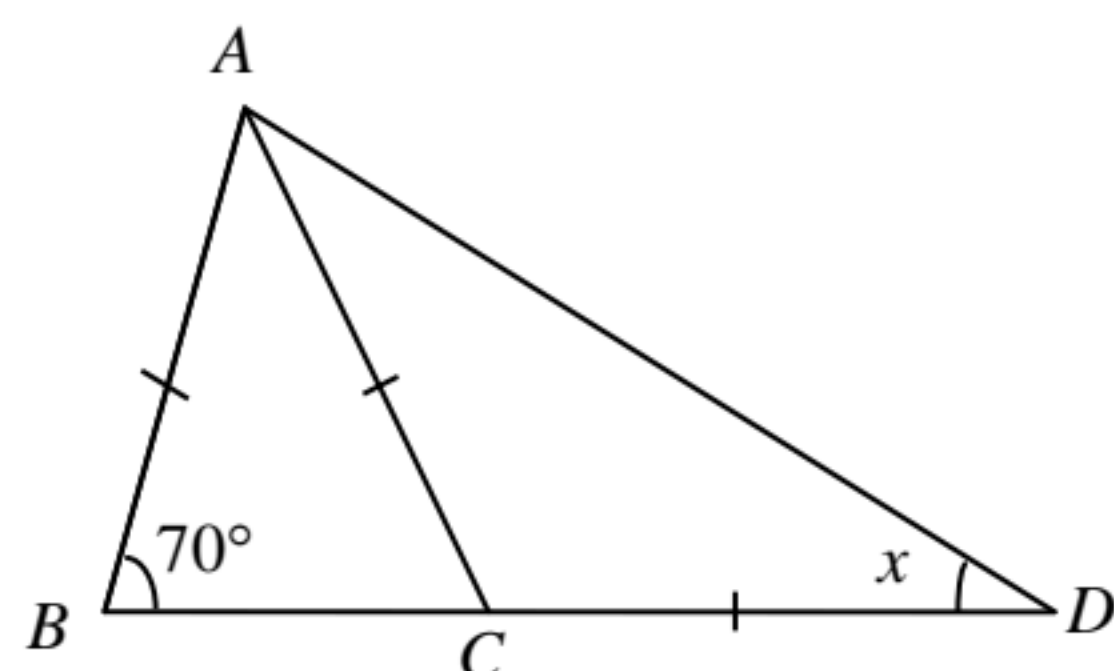


36. In the figure, name a pair of congruent triangles and give a reason.



37. It is given that $\triangle PQR \cong \triangle YXZ$. If $\angle P = 3a$, $\angle R = 70^\circ$ and $\angle X = 8a$, find the value of a .

38. In the figure, BCD is a straight line and $AB = AC = CD$. If $\angle B = 70^\circ$, find x .



35. _____ 2

Reason: (_____)

1

36. _____ 2

Reason: (_____)

1

37. _____ 3

38. _____ 2

Subtotal:

/11

– END OF PAPER –