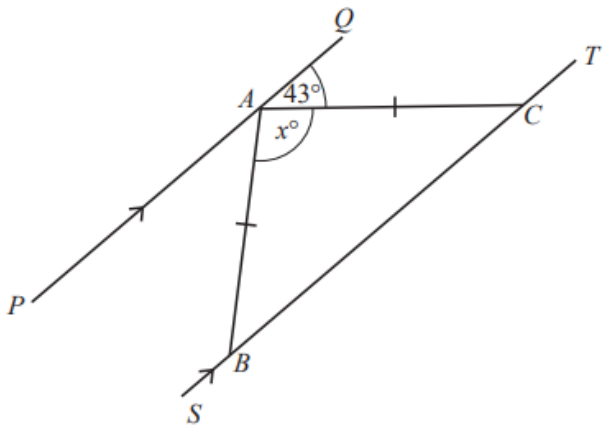
Q1. (June 2018 v1)

7



NOT TO SCALE

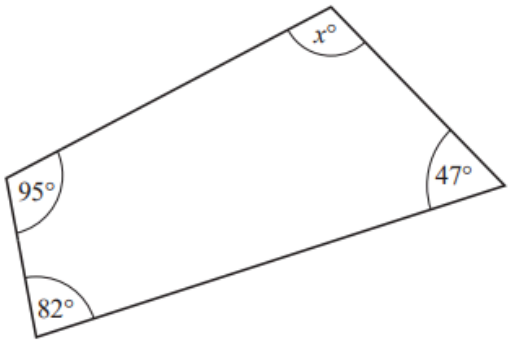
The diagram shows two parallel lines PAQ and $SBCT$.
$AB = AC$ and angle $QAC = 43°$.

Find the value of x.

$x =$ ..... [2]

Q2. (June 2018 v1)

3 The diagram shows a quadrilateral.



NOT TO SCALE

Find the value of x.

$x =$ ..... [1]

Q3. (June 2018 v1)

14 Work out the size of one exterior angle of a regular octagon.

..... [2]

Q4. (June 2018 v2)

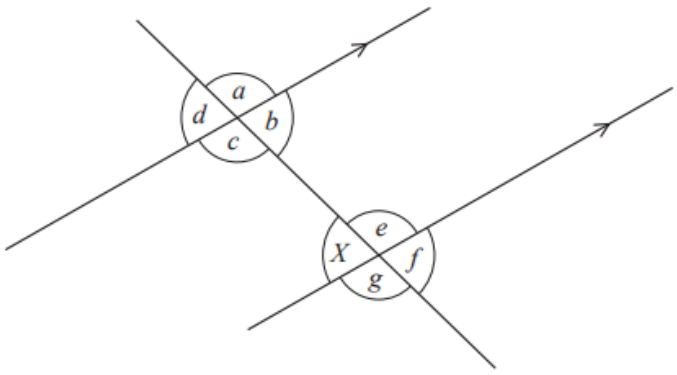
7 The bearing of a lighthouse from a coastguard station is 113°.

Work out the bearing of the coastguard station from the lighthouse.

..... [2]

Q5. (June 2019 v2)

8



The diagram shows two parallel lines and a straight line crossing them.

Write down, using letters from a to g,

(a) the angle that is alternate to angle X,

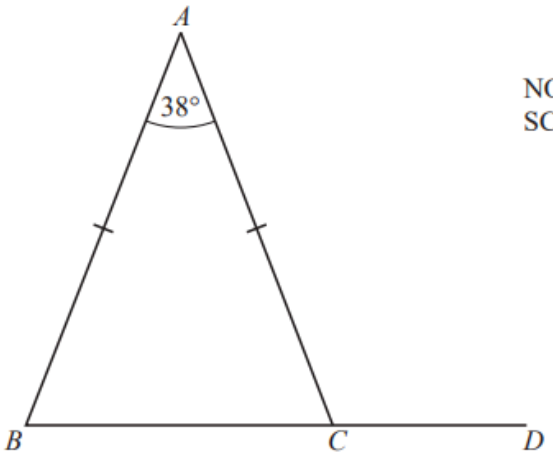
..... [1]

(b) the angle that is corresponding to angle X.

..... [1]

Q6. (June 2020 v1)

5



NOT TO SCALE

In the triangle ABC, $AB = AC$ and angle $BAC = 38°$.
BCD is a straight line.

Work out angle ACD.

Angle ACD = ... [3]

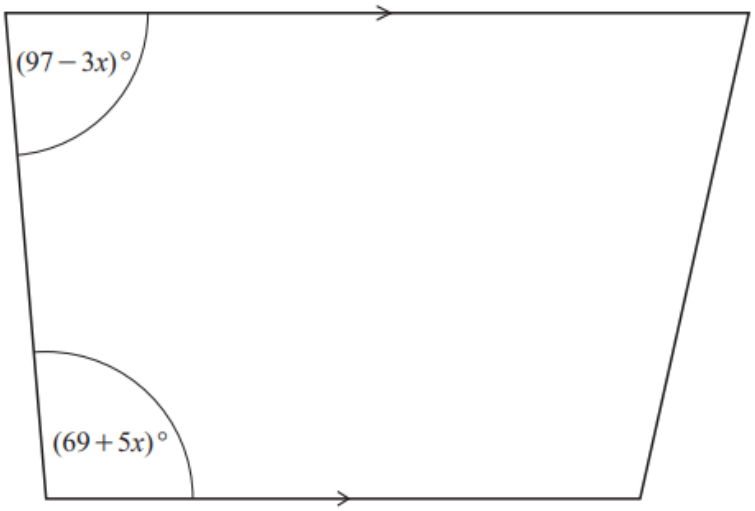
Q7. (June 2020 v1)

10 Work out the size of one interior angle of a regular 9-sided polygon.

..... [2]

Q8. (June 2020 v1)

14 The diagram shows a trapezium.



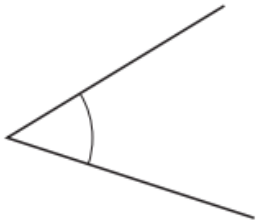
NOT TO SCALE

Work out the value of x.

$x =$ ..... [3]

Q9. (June 2020 v2)

2 (a)

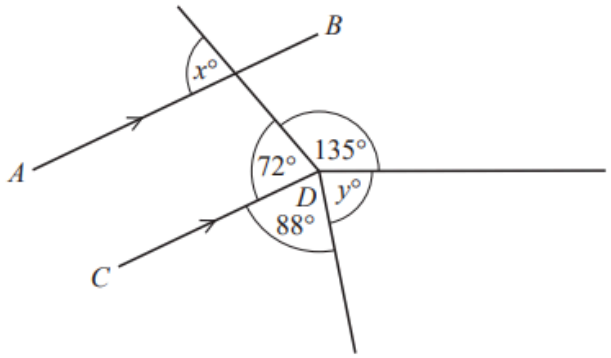


Write down the mathematical name for this type of angle.

..... [1]

Q10. (June 2020 v3)

8



NOT TO SCALE

In the diagram, AB is parallel to CD.

(a) Find the value of x.
Give a geometrical reason for your answer.

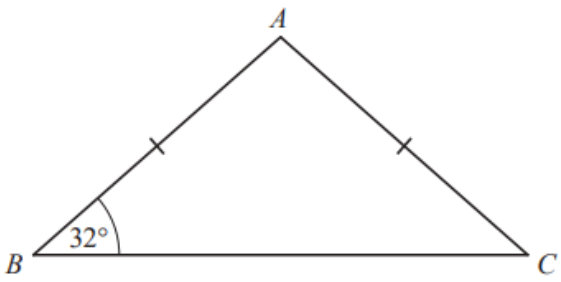
$x =$ ..... because ..... [2]

(b) Work out the value of y.
Give a geometrical reason for your answer.

$y =$ ..... because ..... [2]

Q11. (June 2020 v3)

11



NOT TO SCALE

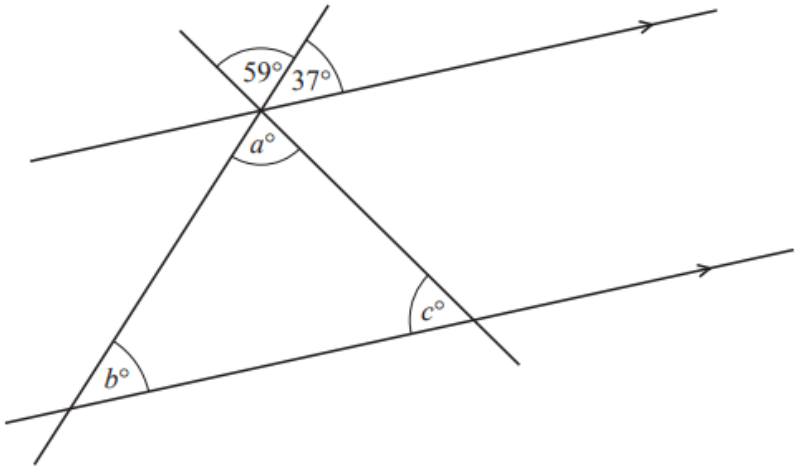
Triangle ABC is isosceles.
Angle $ABC = 32°$ and $AB = AC$.

Find angle BAC.

Angle BAC = ... [2]

Q12. (June 2021 v1)

10



NOT TO SCALE

The diagram shows two parallel lines intersected by two straight lines.

Find the values of a, b and c.

a = ...

b = ...

c = ... [3]

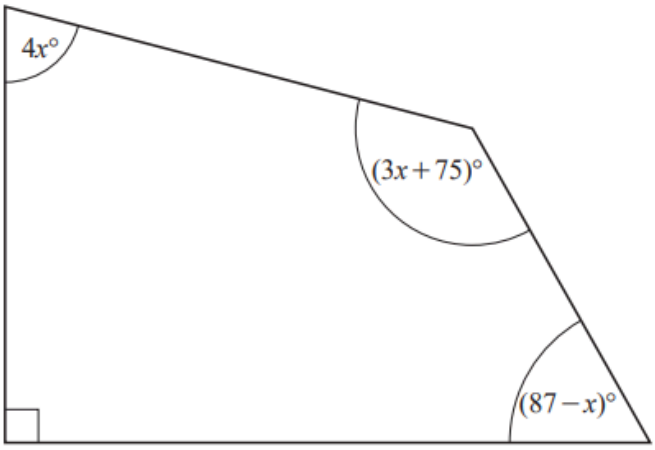
Q13. (June 2021 v1)

(b) Work out the interior angle of a regular 18-sided polygon.

..... [2]

Q14. (June 2021 v2)

22



NOT TO SCALE

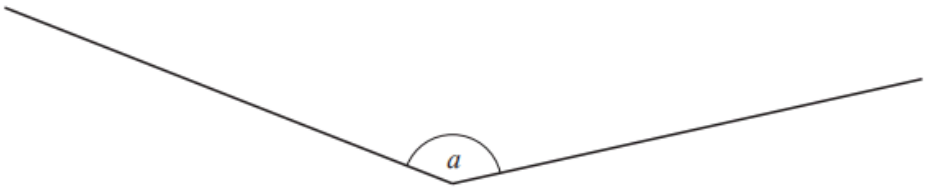
The diagram shows a quadrilateral.

Work out the value of x.

$x =$ ..... [4]

Q15. (June 2021 v3)

1

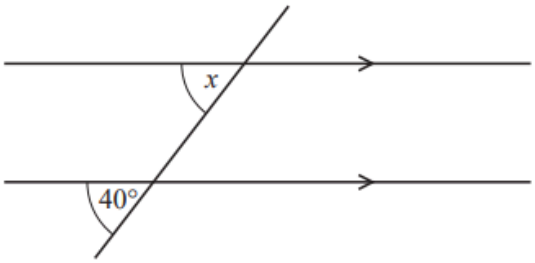


(a) Measure angle a.

..... [1]

Q16. (June 2021 v3)

5



NOT TO SCALE

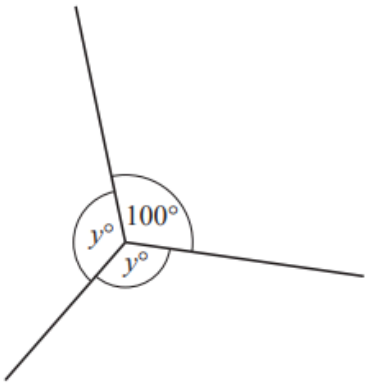
The diagram shows a pair of parallel lines and a straight line.

Complete the statement with the correct geometrical reason.

$x = 40°$ because the angles are ..... [1]

Q17. (June 2021 v3)

8



NOT TO SCALE

Find the value of y.

$y =$ ..... [2]

Q18. (June 2021 v3)

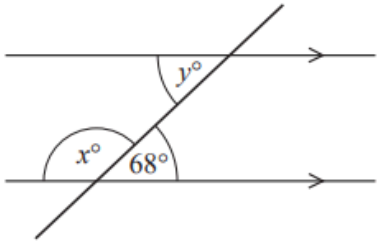
14 The exterior angle of a regular polygon is 36°.

Find how many sides this polygon has.

..... [1]

Q19. (June 2022 v1)

7



NOT TO SCALE

The diagram shows two parallel lines and a straight line crossing them.

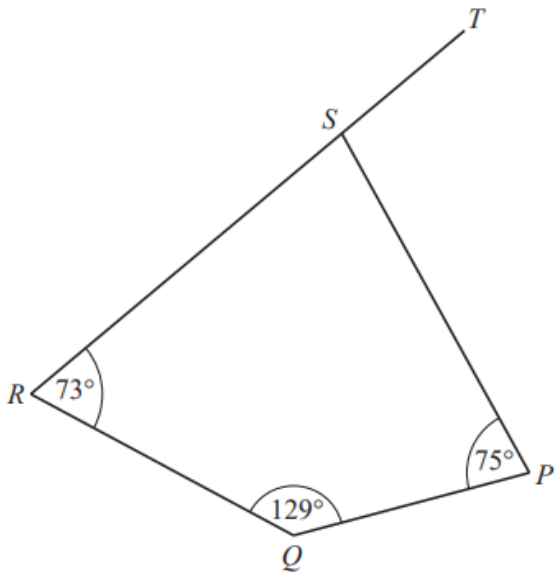
Find the value of x and the value of y.

$x =$ .....

$y =$ ..... [2]

Q20. (June 2022 v3)

9



NOT TO SCALE

PQRS is a quadrilateral.
RST is a straight line.

Find angle *PST*.

Angle *PST* = ... [2]

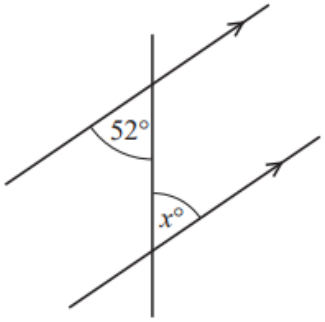
Q21. (June 2022 v3)

(b) Calculate angle *ABC*.

Angle *ABC* = ... [2]

Q22. (June 2023 v1)

12 (a)



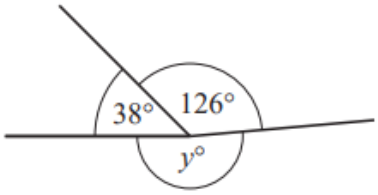
NOT TO SCALE

The diagram shows a pair of parallel lines and a straight line.

Write down the geometrical reason why the value of x is 52.

..... [1]

(b)



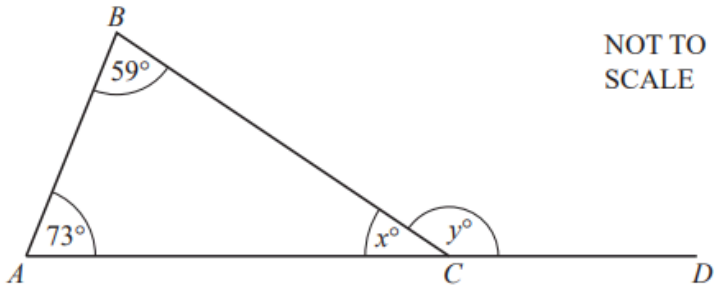
NOT TO SCALE

Find the value of y and write down the geometrical reason for your answer.

y = ... because ..... [2]

Q23. (June 2023 v2)

5



In the diagram, ABC is a triangle and ACD is a straight line.

Find the value of x and the value of y.

$x =$ .....

$y =$ ..... [2]

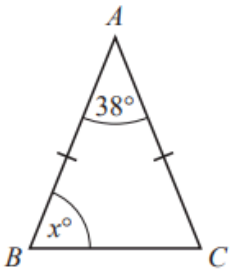
Q24. (June 2023 v2)

17 Find the size of an interior angle of a regular 15-sided polygon.

..... [2]

Q25. (June 2023 v3)

12



NOT TO SCALE

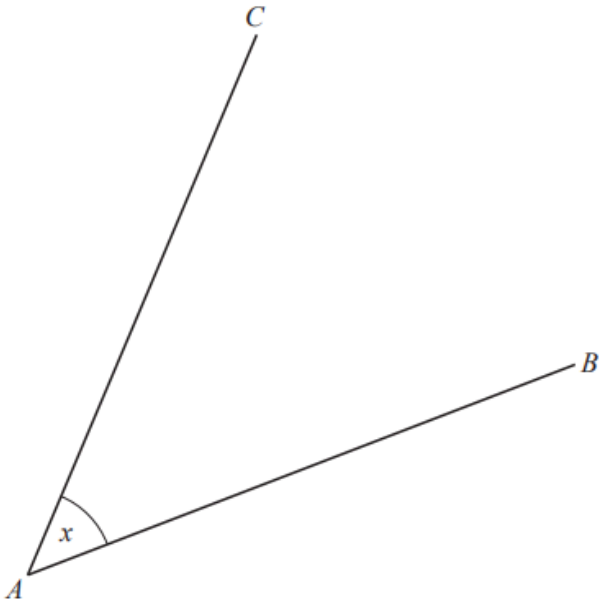
Triangle ABC is isosceles.
Angle $BAC = 38°$ and $AB = AC$.

Find the value of x.

$x =$ ..... [2]

Q26. (June 2024 v2)

2

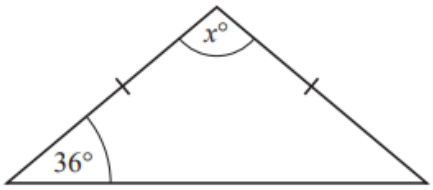


(a) Measure the size of angle x.

..... [1]

Q27. (June 2024 v3)

11



NOT TO SCALE

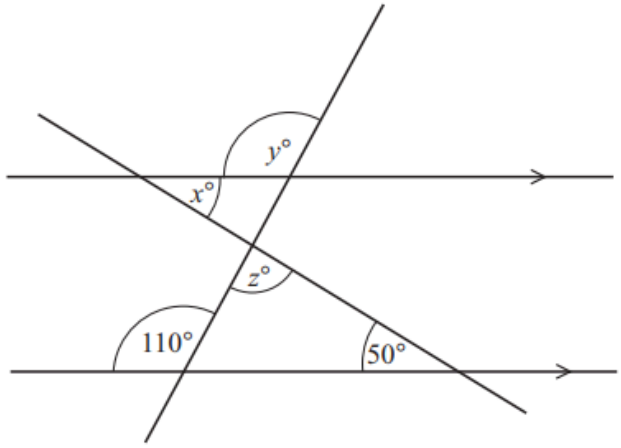
The diagram shows an isosceles triangle.

Find the value of x.

$x =$ ..... [2]

Q28. (June 2025 v1)

18 The diagram shows two straight lines intersecting two parallel lines.



NOT TO SCALE

(a) Find the value of x.
Give a geometrical reason for your answer.

$x =$ ..... because .....

..... [2]

(b) Find the value of y.
Give a geometrical reason for your answer.

$y =$ ..... because .....

..... [2]

(c) Find the value of z.

$z =$ ..... [2]

Q29. (June 2025 v3)

(b) Work out the value of a.

$a =$ ..... [2]

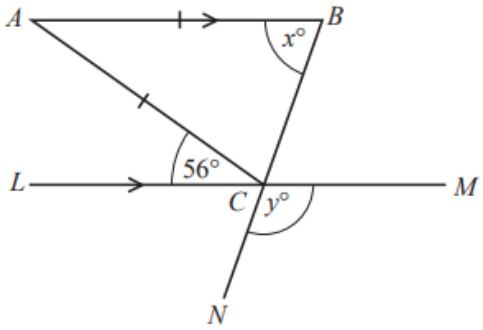
Q30. (Nov 2018 v1)

13 Calculate the size of one exterior angle of a regular 15-sided polygon.

..... [2]

Q31. (Nov 2018 v1)

22



NOT TO SCALE

The diagram shows an isosceles triangle ABC with $AB = AC$.
LCM and BCN are straight lines and LCM is parallel to AB.
Angle $ACL = 56°$.

Find the value of x and the value of y.

$x =$ .....

$y =$ ..... [4]

Q32. (Nov 2018 v2)

1



Write down the type of angle shown in the diagram.

..... [1]

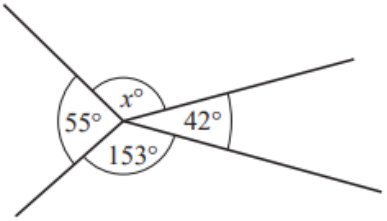
Q33. (Nov 2018 v2)

2 Write down the size of one angle in an equilateral triangle.

..... [1]

Q34. (Nov 2018 v3)

19 **(a)**

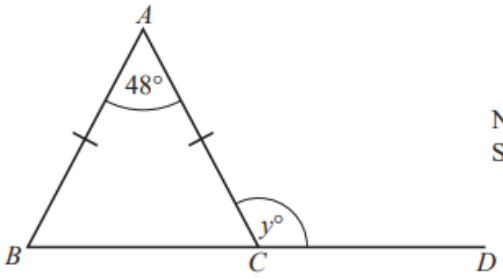


NOT TO SCALE

Find the value of x.

$x =$ ..... [1]

(b)



NOT TO SCALE

ABC is an isosceles triangle and BCD is a straight line.

Find the value of y.

$y =$ ..... [2]

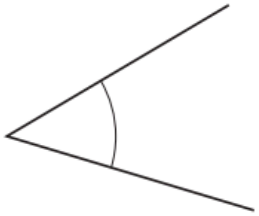
Q35. (Nov 2018 v3)

20 Work out the size of an interior angle of a regular 20-sided polygon.

..... [3]

Q36. (Nov 2019 v3)

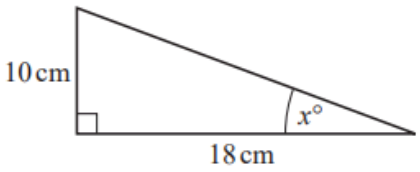
1 Write down the mathematical name of this type of angle.



..... [1]

Q37. (Nov 2020 v1)

21 **(a)**

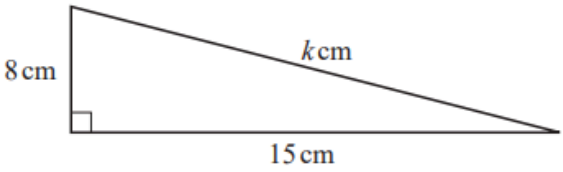


NOT TO SCALE

Calculate the value of x.

$x =$ ..... [2]

(b)



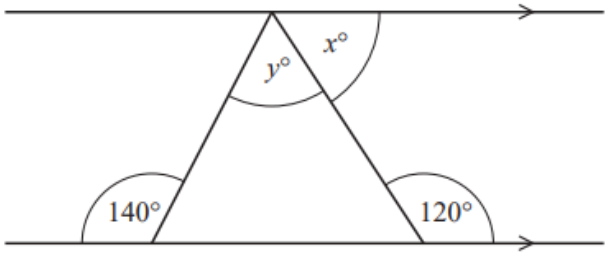
NOT TO SCALE

Calculate the value of k.

$k =$ ..... [2]

Q38. (Nov 2020 v2)

10



NOT TO SCALE

The diagram shows a triangle drawn between a pair of parallel lines.

Find the value of x and the value of y.

$x =$ .....

$y =$ ..... [3]

Q39. (Nov 2020 v3)

19 A regular polygon has an exterior angle of 20°.

Work out the number of sides of this polygon.

..... [1]

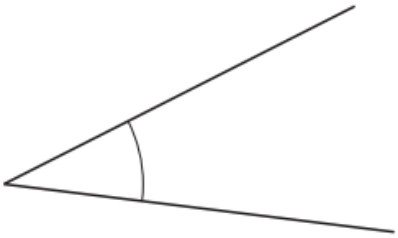
Q40. (Nov 2021 v1)

16 Calculate the size of one interior angle of a regular octagon.

..... [2]

Q41. (Nov 2021 v2)

3

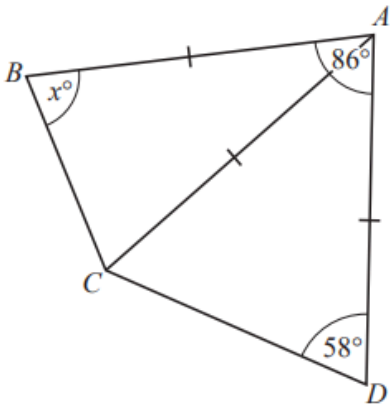


Write down the mathematical name for this type of angle.

..... [1]

Q42. (Nov 2021 v2)

18



NOT TO SCALE

Triangle ABC and triangle ACD are isosceles.
Angle $DAB = 86°$ and angle $ADC = 58°$.

Find the value of x.

$x =$ ..... [3]

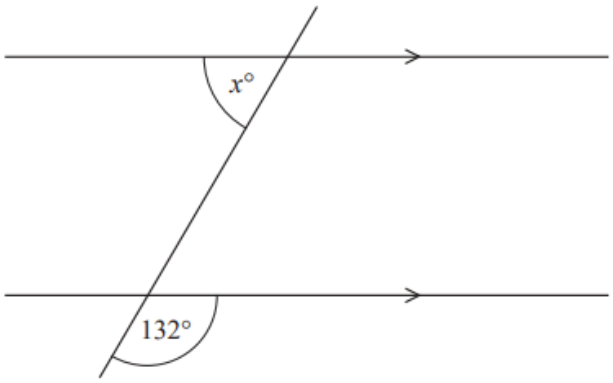
Q43. (Nov 2021 v2)

21 Work out the size of one interior angle of a regular 10-sided polygon.

..... [2]

Q44. (Nov 2021 v3)

13



NOT TO SCALE

The diagram shows two parallel lines intersecting a straight line.

Find the value of x.

$x =$ ..... [2]

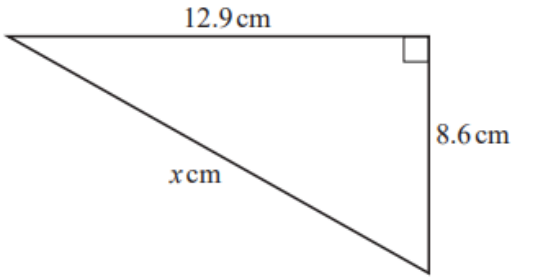
Q45. (Nov 2021 v3)

21 Find the interior angle of a regular 7-sided polygon.

..... [2]

Q46. (Nov 2021 v3)

24 (a)



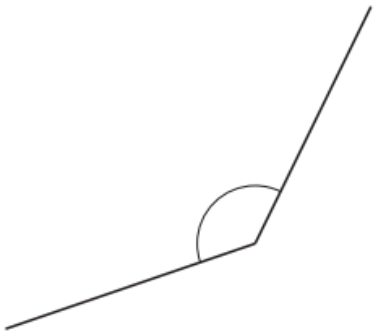
NOT TO SCALE

Calculate the value of x.

$x =$ ..... [2]

Q47. (Nov 2022 v1)

2

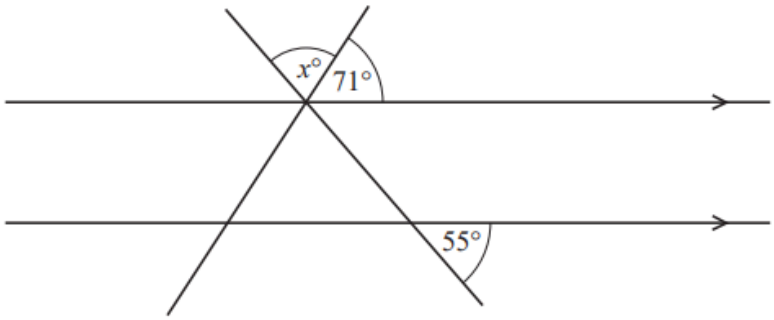


Write down the mathematical name of this type of angle.

..... [1]

Q48. (Nov 2022 v1)

8



NOT TO SCALE

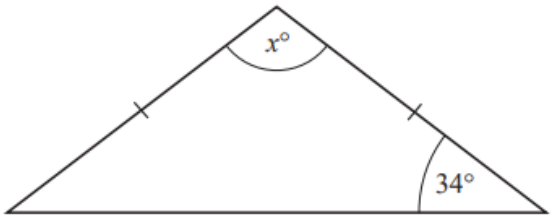
The diagram shows two straight lines intersecting two parallel lines.

Find the value of x.

$x =$ ..... [2]

Q49. (Nov 2022 v2)

7



NOT TO SCALE

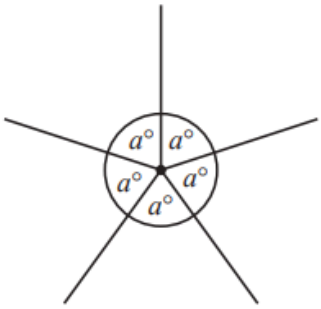
The diagram shows an isosceles triangle.

Find the value of x.

$x =$ ..... [2]

Q50. (Nov 2022 v3)

10



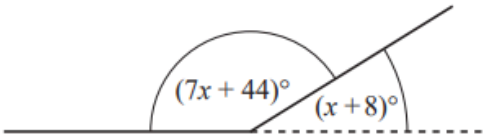
Give the geometrical reason why the value of a is 72.

.....

..... [1]

Q51. (Nov 2022 v3)

24



The diagram shows two sides of a regular polygon.
The interior angle of the polygon is $(7x+44)°$ and the exterior angle is $(x+8)°$.

Find the number of sides of this polygon.

..... [4]

Q52. (Nov 2023 v1)

1

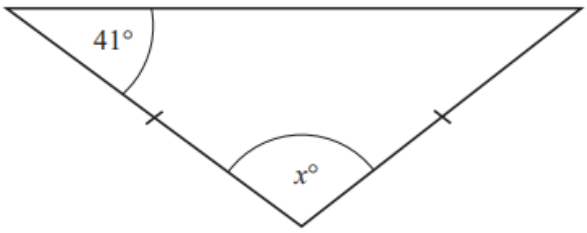


Write down the mathematical name for this type of angle.

..... [1]

Q53. (Nov 2023 v1)

8 The diagram shows an isosceles triangle.



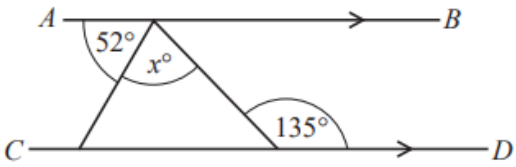
NOT TO SCALE

Find the value of x.

$x =$ ..... [2]

Q54. (Nov 2023 v1)

10



NOT TO SCALE

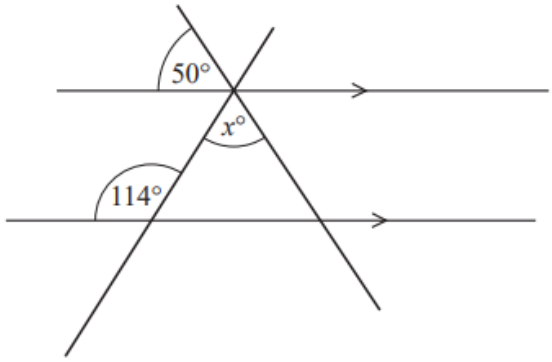
AB and CD are parallel lines.

Find the value of x.

$x =$ ..... [2]

Q55. (Nov 2023 v2)

11



NOT TO SCALE

The diagram shows two straight lines crossing two parallel lines.

Find the value of x.

$x =$ ..... [2]

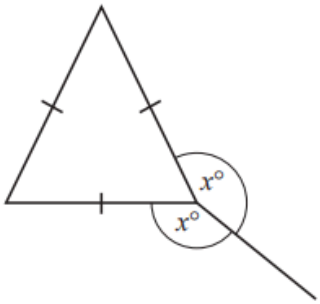
Q56. (Nov 2023 v2)

15 Calculate the interior angle of a regular 9-sided polygon.

..... [2]

Q57. (Nov 2023 v3)

9



NOT TO SCALE

The diagram shows an equilateral triangle.

Find the value of x.

$x =$ ..... [2]

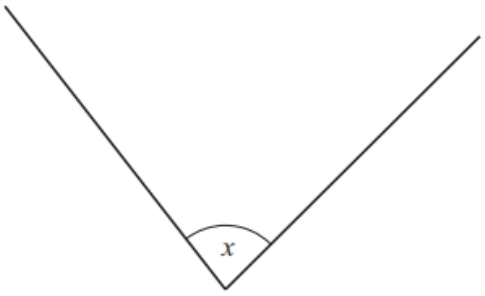
Q58. (Nov 2023 v3)

(b) Find angle BAD.

Angle $BAD =$ ..... [2]

Q59. (Nov 2024 v1)

3



(a) Measure angle x.

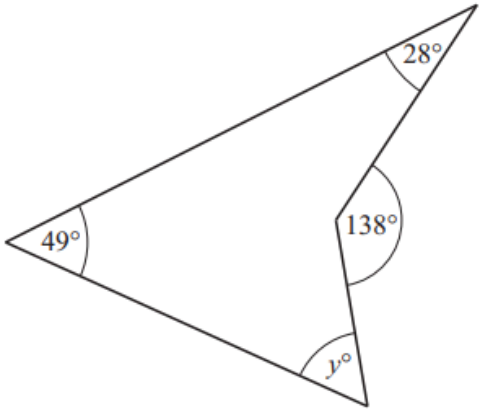
Angle x = ... [1]

(b) Write down the mathematical name for this type of angle.

..... [1]

Q60. (Nov 2024 v1)

8



NOT TO SCALE

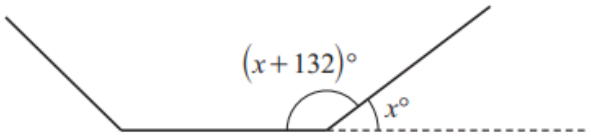
The diagram shows a quadrilateral.

Find the value of y.

y = ... [2]

Q61. (Nov 2024 v1)

24



NOT TO SCALE

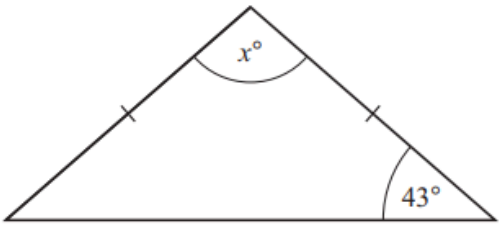
The diagram shows part of a regular polygon.
The interior angle of the polygon is 132° larger than the exterior angle.

Calculate the number of sides of this polygon.

..... [3]

Q62. (Nov 2024 v2)

9 The diagram shows an isosceles triangle.



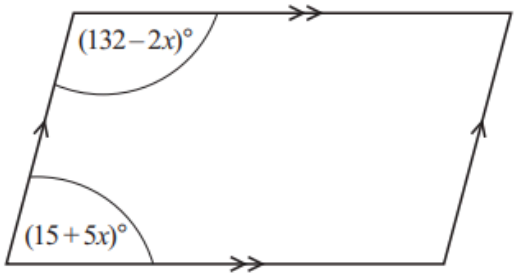
NOT TO SCALE

Find the value of x.

$x =$ ..... [2]

Q63. (Nov 2024 v2)

17 The diagram shows a parallelogram.



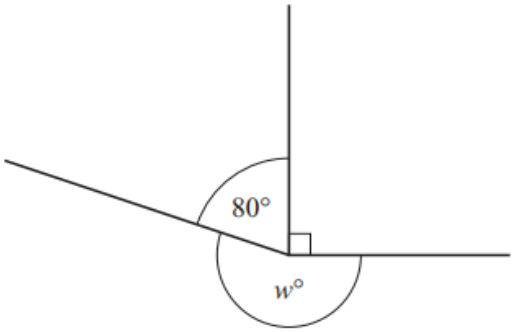
NOT TO SCALE

Work out the size of the smallest interior angle of the parallelogram.

..... [4]

Q64. (Nov 2024 v3)

11 (a)



NOT TO SCALE

The diagram shows three lines meeting at a point.

Find the value of w.

$w =$ ..... [1]

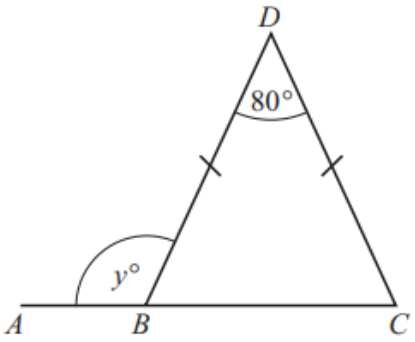
Q65. (Nov 2024 v3)

15 Find the size of an interior angle of a regular 15-sided polygon.

..... [2]

Q64. (Nov 2024 v3)

(b)



NOT TO SCALE

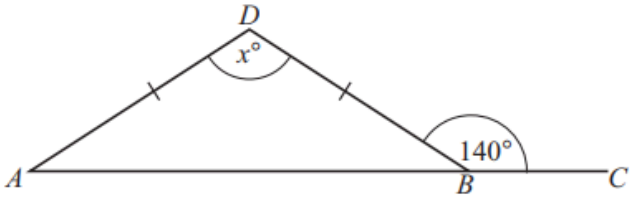
BCD is an isosceles triangle.
ABC is a straight line.

Work out the value of y.

$y =$ ..... [3]

Q66. (Nov 2025 v1)

15



NOT TO SCALE

ABC is a straight line and *ABD* is an isosceles triangle.

Work out the value of x.

$x =$ ..... [3]

Q67. (Nov 2025 v2)

(b) Find the value of the largest angle in this parallelogram.

..... [1]

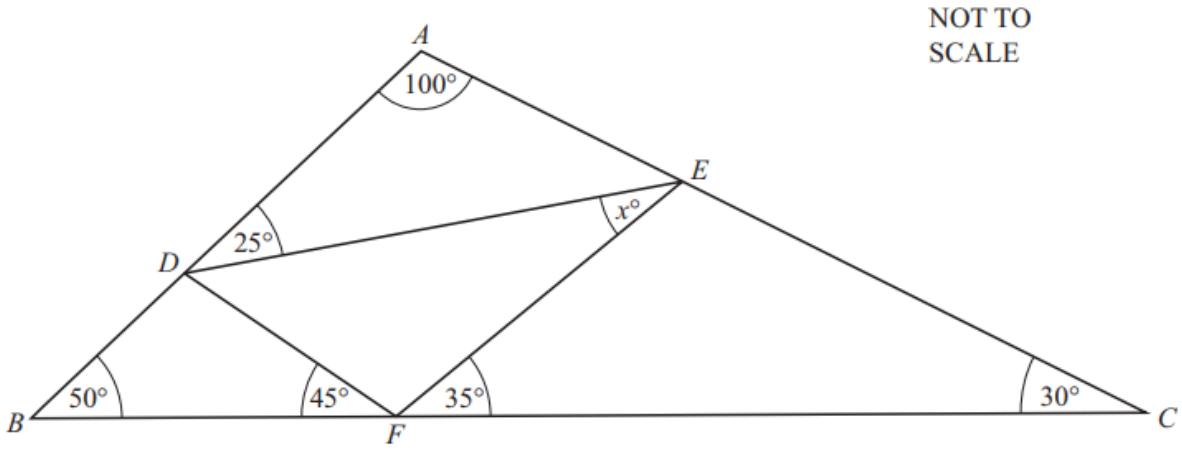
Q68. (Nov 2025 v2)

22 Work out the size of one interior angle of a regular hexagon.

..... [2]

Q69. (Nov 2025 v2)

14 The diagram shows a smaller triangle DEF which has vertices on the sides of a larger triangle ABC.



Find the value of x.

$x =$ ..... [3]

Q70. (Nov 2025 v3)

3



(a) Measure angle a.

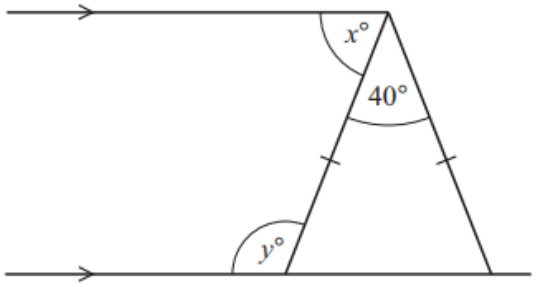
..... [1]

(b) Write down the mathematical name of this type of angle.

..... [1]

Q71. (Nov 2025 v3)

10



The diagram shows an isosceles triangle between a pair of parallel lines.

(a) Find the value of x.

$x =$ ..... [2]

(b) Find the value of y.
Give a geometrical reason for your answer.

$y =$ ..... because .....

..... [2]

Q72. (Nov 2025 v3)

19 Find the number of sides of a regular polygon with interior angle 160°.

..... [2]