Year 8 Angles and Constructions – Mixed Practice

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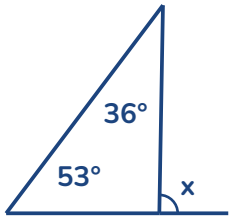
Year 8 · Maths · Angles, Polygons and Constructions · Mixed practice · 30 questions

Name _____ **Date** _____

A. Mixed practice (mixed order)

1. In triangle ABC, angle A = 53° and angle C = 36°. Side AB is extended beyond B. Find the exterior angle x at B.

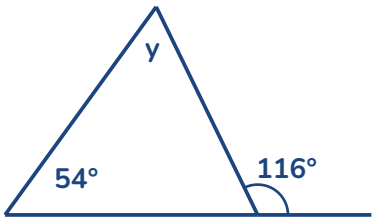


Answer _____

2. A regular polygon has rotational symmetry of order 10. Write its number of sides, number of lines of symmetry and order of rotational symmetry.

Answer _____

3. In triangle ABC, angle A = 54°. Side AB is extended beyond B, and the exterior angle at B is 116°. Find angle C, marked y.

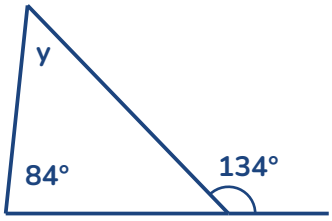


Answer _____

4. A regular polygon has 9 lines of symmetry. Write its number of sides, number of lines of symmetry and order of rotational symmetry.

Answer _____

5. In triangle ABC, angle A = 84°. Side AB is extended beyond B, and the exterior angle at B is 134°. Find angle C, marked y.

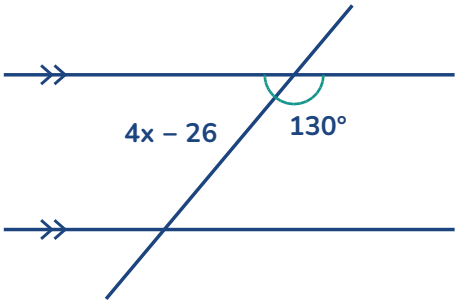


Answer _____

6. A regular polygon has rotational symmetry of order 12. Write its number of sides, number of lines of symmetry and order of rotational symmetry.

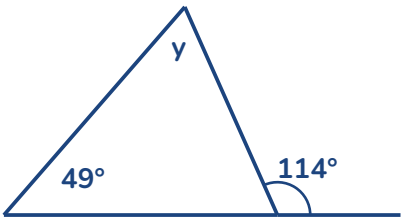
Answer _____

7. The lines marked with arrows are parallel. Write an equation and find x. Give a reason.



Answer _____

8. In triangle ABC, angle A = 49°. Side AB is extended beyond B, and the exterior angle at B is 114°. Find angle C, marked y.

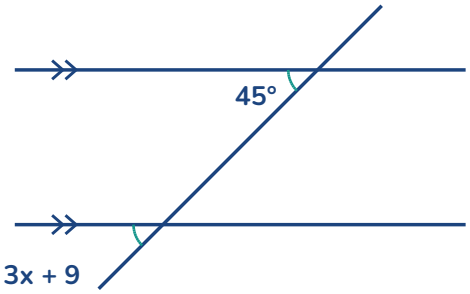


Answer _____

9. A regular polygon has 4 lines of symmetry. Write its number of sides, number of lines of symmetry and order of rotational symmetry.

Answer _____

10. The lines marked with arrows are parallel. Write an equation and find x. Give a reason.

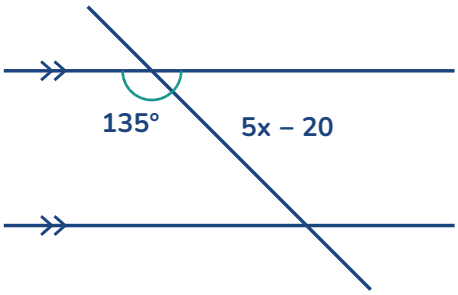


Answer _____

11. In a triangle, the two interior opposite angles to an exterior angle are x and 2x. The exterior angle is 93°. Find x and the size of each angle.

Answer _____

12. The lines marked with arrows are parallel. Write an equation and find x. Give a reason.

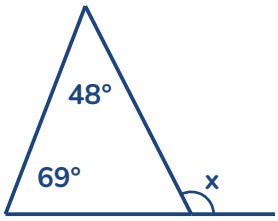


Answer _____

13. A regular polygon has 8 sides. Write its number of sides, number of lines of symmetry and order of rotational symmetry.

Answer _____

14. In triangle ABC, angle A = 69° and angle C = 48°. Side AB is extended beyond B. Find the exterior angle x at B.



Answer _____

15. Kofi says a regular polygon with 12 lines of symmetry has 12 sides. Is Kofi right? Explain.

Answer _____

16. A regular polygon has rotational symmetry of order 6. Write its number of sides, number of lines of symmetry and order of rotational symmetry.

Answer _____

17. In triangle ABC, angle A = 38° and angle C = 44°, and AB is extended beyond B. Kofi says the exterior angle at B equals angle C, 44°. Explain the mistake and find it.

Answer _____

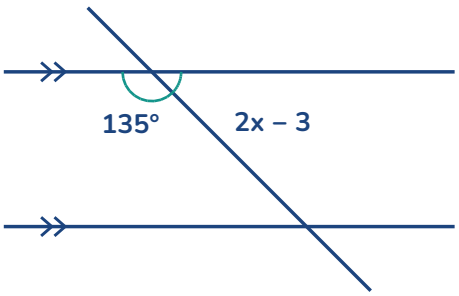
18. In a triangle, the two interior opposite angles to an exterior angle are x and 3x. The exterior angle is 148°. Find x and the size of each angle.

Answer _____

19. Draw an angle of 66°. Construct its bisector with compasses. What size are the two angles you have made?

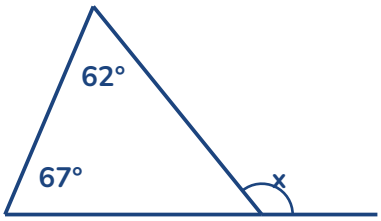
Answer _____

20. The lines marked with arrows are parallel. Write an equation and find x. Give a reason.



Answer _____

21. In triangle ABC, angle A = 67° and angle C = 62°. Side AB is extended beyond B. Find the exterior angle x at B.



Answer _____

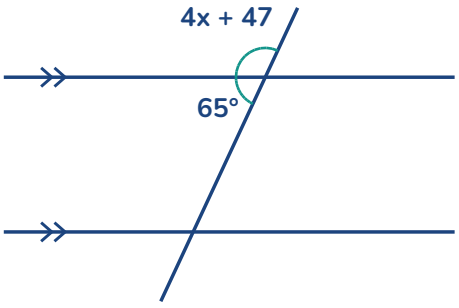
22. Amir says the exterior angle of a triangle is always obtuse. Is Amir right? Explain.

Answer _____

23. In a triangle, the two interior opposite angles to an exterior angle are x and 3x. The exterior angle is 100°. Find x and the size of each angle.

Answer _____

24. The lines marked with arrows are parallel. Write an equation and find x. Give a reason.

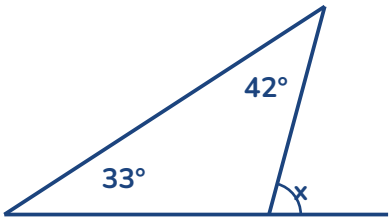


Answer _____

25. A regular polygon has rotational symmetry of order 3. Write its number of sides, number of lines of symmetry and order of rotational symmetry.

Answer _____

26. In triangle ABC, angle A = 33° and angle C = 42°. Side AB is extended beyond B. Find the exterior angle x at B.



Answer _____

27. Dina says every rectangle is a parallelogram. Is Dina right? Explain.

Answer _____

28. Draw a line segment PQ 9.7 cm long. Construct its perpendicular bisector with compasses. How far from P is the midpoint, and what angle does the bisector make with PQ?

Answer _____

29. In triangle ABC, angle A = 69° and angle C = 68°, and AB is extended beyond B. Jade says the exterior angle at B equals angle C, 68°. Explain the mistake and find it.

Answer _____

30. Name the quadrilateral that has two pairs of equal adjacent sides and no parallel sides.

Answer _____