

maths — ANSWER KEY (Not for Students)

JHS 3 | Mathematics | First Term — 2025-2026 | Duration: 60 minutes | Total Marks: 48

Instructions:

ANSWER KEY

1. Use a ruler and compasses to construct an angle of 60° at a point on a line segment. Describe your steps.
2. Construct an angle of 90° at point P on line AB. Then bisect this angle to obtain 45° . List the steps.
3. Construct an angle of 120° using a pair of compasses. Verify your construction with a protractor. Describe the process.
4. Construct an angle of 75° by first constructing 90° and then 60° and bisecting the difference. Explain your steps.
5. Draw a line segment $AB = 8$ cm. Construct its perpendicular bisector. Label the midpoint M. What is AM?
6. Construct a triangle ABC with $AB = 6$ cm
7. Construct an equilateral triangle with side length 5 cm. What is the measure of each angle?
8. Construct a right-angled triangle with hypotenuse 10 cm and one leg 6 cm. What is the length of the other leg?
9. Construct an isosceles triangle PQR with $PQ = PR = 7$ cm and base $QR = 5$ cm. Measure the base angles.
10. Draw a circle of radius 3 cm. Construct two chords and then construct their perpendicular bisectors. Where do they intersect?
11. Construct a circle of radius 4 cm. Inscribe a regular hexagon inside it. Describe your steps.
12. Construct a triangle ABC. Bisect angles A and B. Label the intersection point I. Measure the distance from I to side AB. What is point I called?
13. Construct a square of side 6 cm. Draw both diagonals. What is the length of each diagonal?
14. Construct a rectangle with length 8 cm and width 5 cm. Calculate its perimeter and area.
15. Construct a parallelogram PQRS with $PQ = 7$ cm
16. On a Cartesian plane

17. Plot triangle P(1
18. Plot triangle A(1
19. Plot triangle X(1
20. On a Cartesian plane
21. On a graph
22. Draw a distance-time graph for the following: A car travels 20 km in 30 min
23. Draw a pie chart to represent the following data: Food = GH¢120
24. Draw a bar chart for the following test scores: 10-20 (3 students)
25. Draw a stem-and-leaf plot for the data: 25
26. The diagram shows two parallel lines cut by a transversal. Angle 1 = 70° . Find angles 2
27. In triangle ABC
28. The diagram shows a circle with centre O. Radius = 7 cm. Calculate the circumference and area. (Use $\pi = 22/7$)
29. The diagram shows a right-angled triangle with legs 6 cm and 8 cm. Use Pythagoras theorem to find the hypotenuse. Draw the triangle.
30. The graph shows the line $y = 2x + 1$. From the graph
31. The graph shows two lines: $y = -x + 5$ and $y = x - 1$. From the graph
32. Draw a Venn diagram showing two sets A and B with $A \cap B = \{3$
33. The diagram shows a rectangular prism (cuboid) with length 8 cm
34. The diagram shows a triangular prism with triangular face base 6 cm
35. The bearing of point B from point A is 060° . Draw a diagram showing this. What is the bearing of A from B?
36. The diagram shows a sector of a circle with radius 14 cm and angle 90° . Calculate the area of the sector. (Use $\pi = 22/7$)
37. The diagram shows a compound shape composed of a rectangle and a semicircle. The rectangle is 10 cm by 6 cm. Find the total area.
38. The diagram shows a histogram with class intervals 0-10
39. The diagram shows a number line with an open circle at 3 and shading to the right. Write the inequality represented.
40. The diagram shows two perpendicular lines. One line has slope $2/3$. What is the slope of

the perpendicular line?

- 41.** The diagram shows a quadrilateral with three angles given as 90°
- 42.** The diagram shows a regular hexagon. What is the measure of each interior angle?
- 43.** The diagram shows a circle with a chord of length 10 cm at a distance of 3 cm from the centre. Find the radius of the circle.
- 44.** The diagram shows a right-angled triangle with angle 30° and hypotenuse 10 cm. Find the length of the side opposite the 30° angle.
- 45.** The diagram shows an enlargement with centre (0
- 46.** The diagram shows two parallel lines. A transversal creates an angle of 115° . Find the corresponding angle on the other parallel line.
- 47.** The diagram shows a triangle with sides 5 cm
- 48.** The diagram shows a circle with diameter 14 cm. A chord is 5 cm from the centre. Draw the diagram and calculate the chord length.