4. Geometry and measures

Starter Quiz ·

AQA · GCSE · Mathematics

Name: _____ Score: _____

1. Find the area of a rectangle of sides 8 cm and 5 cm.

   _____

2. Find the x-component of (4,1)+(1,3).

   _____

3. Find the midpoint x-coordinate between (0,0) and (6,0).

   _____

4. Find the straight-line neighbour of 68°.

   _____

5. Find the diameter when radius is 5 cm.

   _____

6. The reverse bearing of 070° is 290°.

   ☐ True ☐ False

7. The sloping side of a parallelogram is always its perpendicular height.

   ☐ True ☐ False

8. The complete perimeter of a semicircle is half a circle's circumference.

   ☐ True ☐ False

9. A sector's arc length and perimeter are always the same.

   ☐ True ☐ False

10. If two vectors are parallel, any three points used in their diagrams must be collinear.

    ☐ True ☐ False

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Answers ·

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1. **40.0**

   Rectangle area=8×5=40 cm^2.

2. **5.0**

   Add the x-components: 4+1=5.

3. **3.0**

   Midpoint x-coordinate=(0+6)/2=3.

4. **112.0**

   180-68=112°.

5. **10.0**

   Diameter=2×5=10 cm.

6. **False**

   A bearing is measured at the departure point, not the destination. Read clockwise from north rather than the acute angle to the nearest compass axis. The back bearing differs by 180°, even when the diagram is oblique.

7. **False**

   Use perpendicular height rather than a sloping side. A shared internal division line is not part of the perimeter. An area answer has squared units; a perimeter answer has length units.

8. **False**

   Radius must be halved from a given diameter before squaring. Half a circle's circumference is only its arc, not the complete semicircle perimeter. An internal join is not exposed boundary.

9. **False**

   An arc length is not a sector perimeter. Use the angle as a fraction of 360°, not 180°. Radius is squared only for area, not arc length.

10. **False**

    Keep AB=b-a, not a-b. Parallelism alone does not locate a line. A numerical example can check the algebra but cannot replace the general midpoint proof.