

Constructing Angles and Perpendiculars

Chapter 8: Playing with Constructions · Topic 2

Key Concept

To construct a 60° angle using a compass: draw a base line, place the compass point on one endpoint and draw an arc crossing the line, then without changing the compass width, place the point where the arc crosses the line and draw another arc crossing the first — the line connecting the original point to this intersection creates a perfect 60° angle. From a 60° angle, other angles like 30° (by bisecting 60°) or 90° (by combining and bisecting) can also be constructed using only compass and straightedge techniques.

Quick Revision Notes

- Two lines meeting at exactly 90° are called perpendicular.
- Standard angles like 60° can be constructed precisely using only a compass and straightedge.
- A 60° angle is constructed using two equal-width compass arcs from a base line.
- From 60° , angles like 30° (bisecting) or 90° can also be constructed geometrically.

Practice Questions

- 1 Construct a 90° angle using a ruler and compass.
- 2 Construct a 60° angle using a compass and straightedge.
- 3 Explain how you could construct a 30° angle starting from a 60° angle.