# Guide to:
# Loci and construction

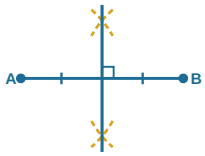
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**Explanation:**

A **locus** (plural: **loci**) is the path of points that obey a given distance rule. In construction and loci questions, **never rub out your compass construction arcs** — examiners award method marks for visible arcs!

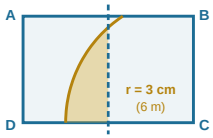
Know the four standard loci: (1) **Fixed distance from a point *P*** → a **circle** around *P*; (2) **Equidistant from two points *A* and *B*** → the **perpendicular bisector** of line *AB*; (3) **Equidistant from two intersecting lines** → the **angle bisector**; (4) **Fixed distance from a line segment** → parallel lines with semicircular ends (stadium shape).

**Example 1:** Construct the **perpendicular bisector** of line segment *AB* (equidistant from *A* and *B*).




1. Radius > $\frac{1}{2}AB$.
2. Equal arcs from *A* & *B* above & below.
3. Join intersections.

**Example 2:** Garden *ABCD* has scale **1 cm = 2 m**. Shade the region closer to ***A* than *B*** and within **6 m of *C***.




1. Bisect *AB* (left side).
2. 6 ÷ 2 = **3 cm** arc centred at *C*.
3. Shade overlap.

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