

Compass Directions and Bearings



Key idea



A **bearing** names a direction as an angle measured **clockwise from north**, written with three digits, e.g. 045° .

The eight bearings



N = 000° E = 090°
S = 180° W = 270°
NE = 045° SE = 135°
SW = 225° NW = 315°

Example



North-east is halfway between north (000°) and east (090°), so its bearing is 045° .

Common mistake

Always measure **clockwise from north** — never from east. Keep three digits: write 045° , not 45° .



Reverse Bearings and Turning



Key idea

A **reverse bearing** points straight back the way you came. Add 180° if the bearing is under 180° ; subtract 180° if it is 180° or more.

Example: reverse

A boat sails on 060° .
 $060^\circ + 180^\circ = 240^\circ$, so the reverse bearing is 240° .

Example: turning past north

A plane on 300° turns 90° clockwise.
 $300^\circ + 90^\circ = 390^\circ$. Subtract 360° : the new bearing is 030° .

Common mistake

A bearing must stay between 000° and 360° . If a turn takes you over 360° , **subtract** 360° .

