

Compass Directions and Bearings



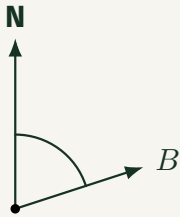
Name _____ Date _____

Name compass directions, read and write three-figure bearings, and calculate reverse bearings and turns.

Show your method

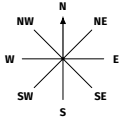
A bearing is always measured clockwise from North and written with three figures (e.g. 072° , not 72°). Show your working for any calculation.

Worked example State the three-figure bearing shown, from *A* to *B*.



The angle is measured clockwise from North.
The marked angle is 72° .
Bearing = 072°

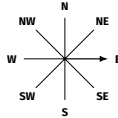
1. Name the direction opposite the one shown.



Solution

Opposite N is S.
Answer: South

2. Name the direction opposite the one shown.



Solution

Opposite E is W.
Answer: West

3. Name the direction exactly halfway between north and west.

Solution

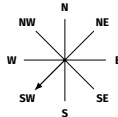
Halfway between N and W is North-west (NW).

4. You are facing south. Turn a quarter-turn (90°) clockwise. Which direction are you facing now?

Solution

$S \rightarrow (90^\circ \text{ CW}) \rightarrow W$
Answer: West

5. Turn a half-turn (180°) from the direction shown. Which direction now?



Solution

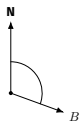
$SW \rightarrow (180^\circ) \rightarrow NE$
Answer: North-east

6. Write the three-figure bearing for south.

Solution

South is a quarter-turn past east from north.
Bearing = 180°

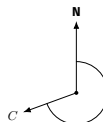
7. State the three-figure bearing shown.



Solution

Measured clockwise from N.
Bearing = 110°

8. State the three-figure bearing shown.



Solution

Measured clockwise from N.
Bearing = 250°

9. Which compass direction matches the bearing 090° ?

Solution

A quarter-turn clockwise from north is east.
Answer: East

Compass Directions and Bearings (continued)



Reverse bearings, turns between bearings, and wrap-around bearings.

Name _____

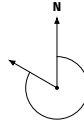
Date _____

10. Which compass direction matches the bearing 225° ?

Solution

225° is halfway between south (180°) and west (270°).
Answer: South-west

11. A boat sails on the bearing shown. What is the reverse bearing?



Solution

$$300 - 180 = 120$$

12. A hiker travels from P to Q on bearing 040° . What is the reverse bearing from Q back to P ?

Solution

$040^\circ < 180^\circ$, so add 180° : $040 + 180 = 220$
Reverse bearing = 220°

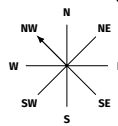
13. Through how many degrees clockwise do you turn from bearing 050° to bearing 160° ?

Solution

$$160 - 050 = 110$$

Turn = 110°

14. Write the direction shown as a three-figure bearing.



Solution

Halfway between N and W.
Bearing = 315°

15. A tower is due north of a bridge. What bearing would you walk from the bridge to reach the tower?

Solution

Due north = bearing 000° .

16. Start on bearing 250° . Turn 150° clockwise. What is the new bearing? (Subtract 360° if you pass it.)

Solution

$$250 + 150 = 400$$
$$400 - 360 = 40$$

New bearing = 040°

17. A bearing of 380° is written by mistake. Write the correct equivalent bearing between 000° and 360° .

Solution

$$380 - 360 = 20$$

Correct bearing = 020°

18. A ship heads on bearing 200° . Which of the four main compass directions (N, E, S, W) is it closest to?

Solution

Distance to S(180°): 20° .
Distance to W(270°): 70° .
Closest: South