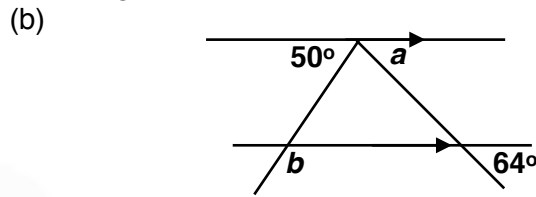
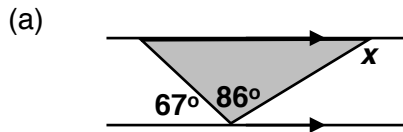


Bearings

Starter

1. (Review of last lesson) Find the marked angles:



Working: (a) There are several ways to do this question.

Angles on straight line add up to 180°

$$y = 180 - 67 - 86 = 27^\circ$$

x and y are allied angles so

$$x = 180 - y$$

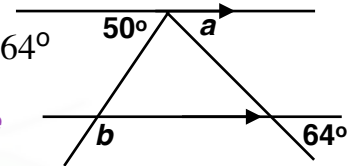
$$x = 180 - 27 = 153^\circ$$

(b) Angle a is corresponding to 64° so $a = 64^\circ$

Using alternate angles $c = 50^\circ$.

$b = 180 - c$ *angles on a straight line*

$$b = 180 - 50 = 130^\circ$$



2. The clockwise angle from North to East is 90° . Write down the clockwise angle between North and the following points on the compass:

(a) W
(d) SE

(b) S
(e) NW

(c) NE
(f) WSW

Working: (a) 270°

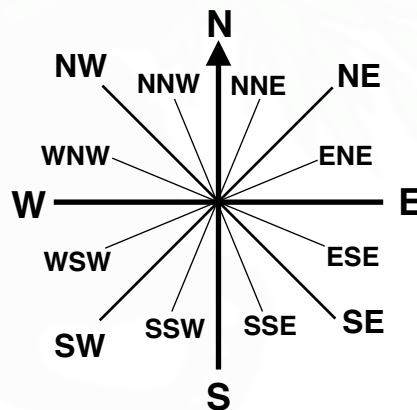
(b) 180°

(c) 45°

(d) 135°

(e) 315°

(f) $270 - 22.5 = 247.5^\circ$



N.B. There is 90° between N and E.
There is 45° between N and NE.
There is 22.5° between N and NNE.

E.g. 1 Which points on the compass are the same as these bearings:

(a) 000°

(b) 225°

(c) 337.5°

Working: (a) N

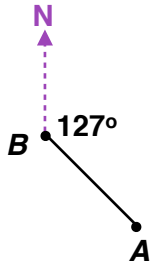
(b) SW

(c) NNW

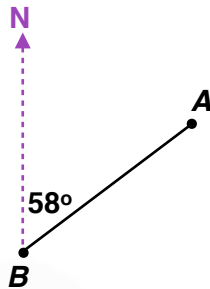
Geogebra: [Bearings](#)

E.g. 2 Write down the bearing of A from B .

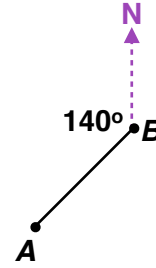
(a)



(b)



(c)



Working:

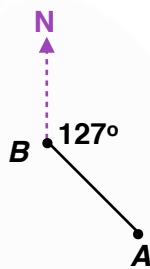
(a) 127°

(b) 058°

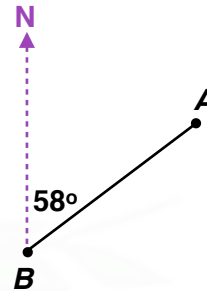
(c) $360 - 140 = 220^\circ$

E.g. 3 For the diagrams of below, calculate the bearing of B from A .

(a)



(b)



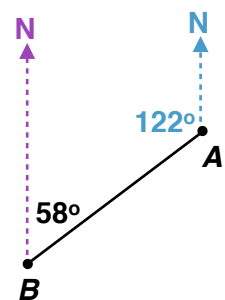
Working:

“the bearing of B from A ” – the “*from A*” means start from A . Therefore, a North arrow must be drawn *from A*.

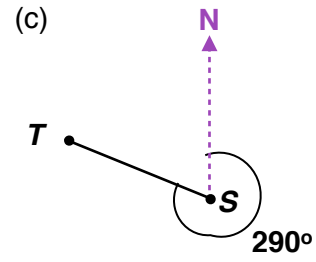
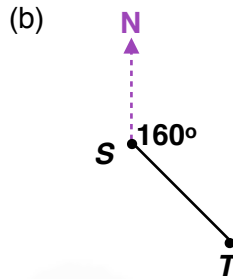
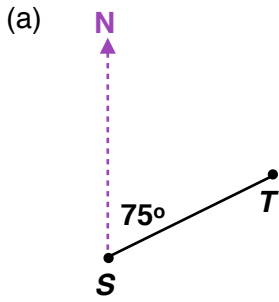
(a) By allied angles, the angle between the line AB and A 's North arrow is $180 - 127 = 53^\circ$.
So bearing of B from A is $360 - 53 = 307^\circ$



(b) By allied angles, the angle between the line AB and A 's North arrow is $180 - 58 = 122^\circ$.
So bearing of B from A is $360 - 122 = 238^\circ$



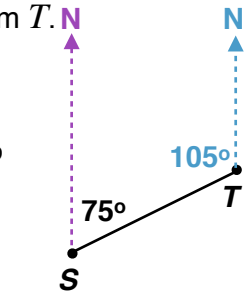
E.g. 4 What is the bearing of S from T ?



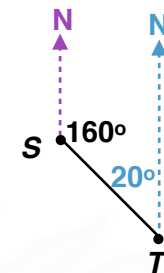
Working:

“the bearing of S from T ” – the “*from* T ” means start from T . Therefore, a North arrow must be drawn *from* T .

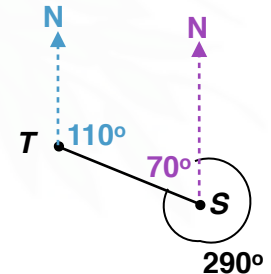
(a) By allied angles, the angle between the line ST and T 's North arrow is $180 - 75 = 105^\circ$.
So the bearing of S from T is $360 - 105 = 255^\circ$



(b) By allied angles, the angle between the line ST and T 's North arrow is $180 - 160 = 20^\circ$.
So the bearing of S from T is $360 - 20 = 340^\circ$



(c) The angle between the line ST and S 's North arrow is $360 - 290 = 70^\circ$.
By allied angles, the bearing of S from T is $180 - 70 = 110^\circ$

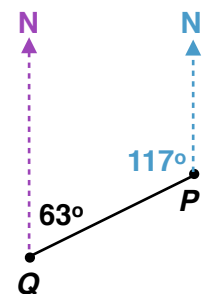


E.g. 5 If the bearing of P from Q is 063° , what is the bearing of Q from P ?

Hint: draw a diagram.

Working:

By allied angles, the angle between the line PQ and P 's North arrow is $180 - 63 = 117^\circ$.
So the bearing of Q from P is $360 - 117 = 243^\circ$



Video: [Bearings](#)
Video: [Back bearings](#)

[Solutions to Starter and E.g.s](#)

Exercise

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