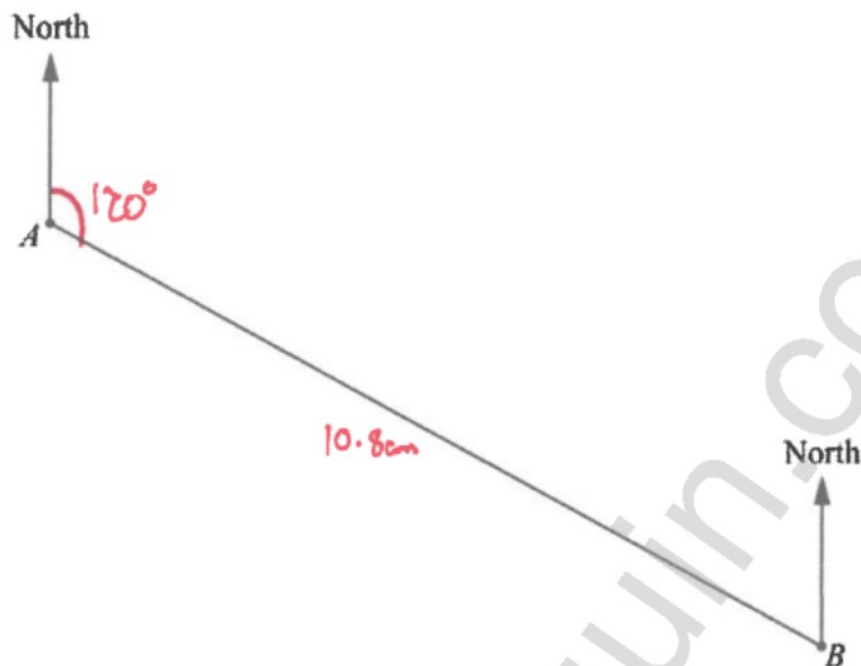


5



Two towns, A and B , are shown on a map.
The scale of the map is 1 cm to 3 km.

- (a) Find the actual distance between A and B .

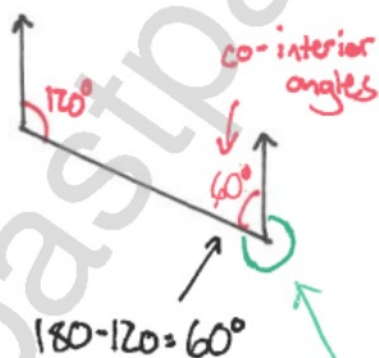
$$10.8 \times 3 = 32.4$$

..... 32.4 km [1]

- (b) Measure the bearing of B from A .

..... 120° [1]

- (c) Calculate the bearing of A from B .
You must show all your working.

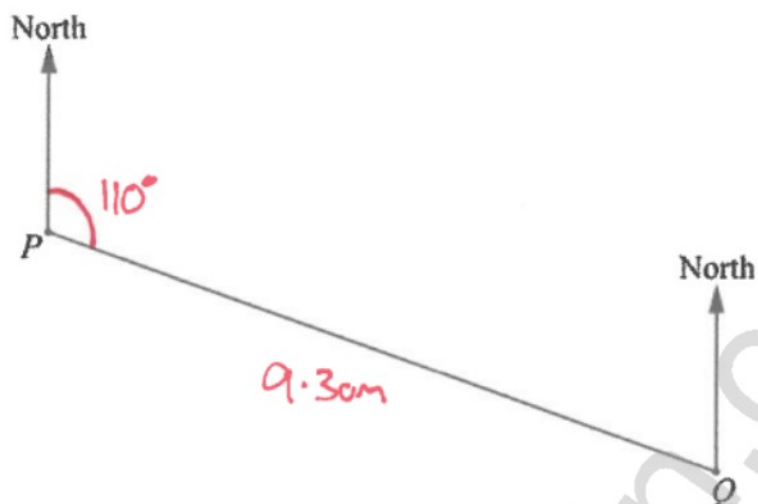


$$360 - 60 = \underline{300^\circ}$$

..... 300° [2]

- 2 The scale drawing shows the positions of two villages, P and Q .

The scale is 1 cm represents 0.5 km.



- (a) Find the actual distance between village P and village Q .

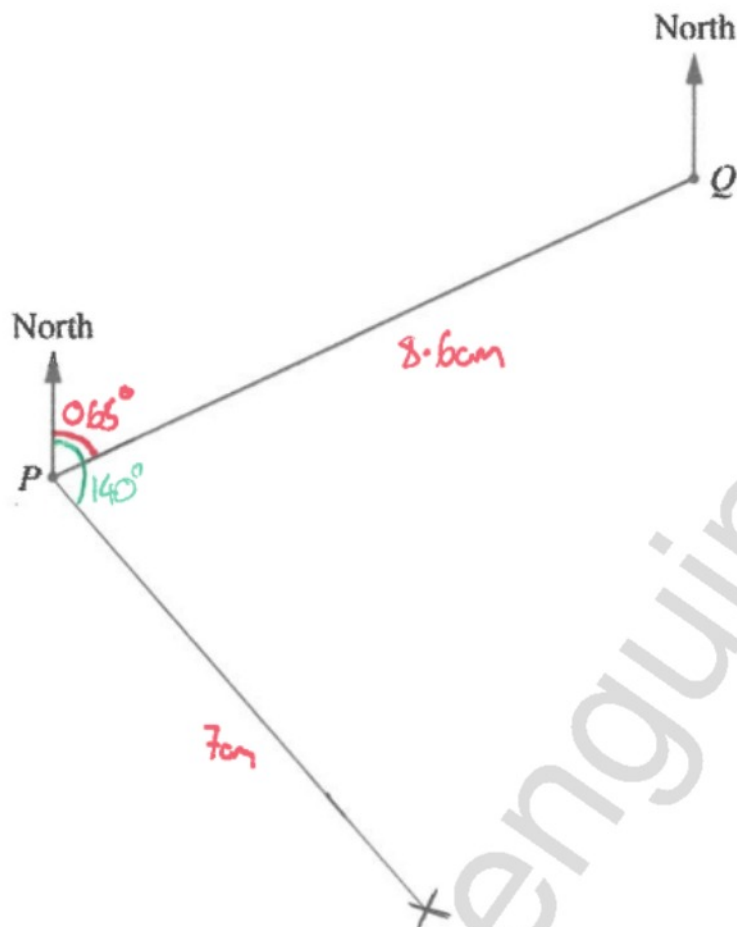
$$9.3 \times 0.5 = 4.65$$

..... 4.65 km [2]

- (b) Measure the bearing of village Q from village P .

..... 110° [1]

- 6 The scale drawing shows the positions of two towns, P and Q .
The scale is 1 cm represents 4 km.



Scale: 1 cm to 4 km

- (a) Find the actual distance between town P and town Q .

$$8.6 \times 4 = 34.4$$

..... 34.4 km [2]

- (b) Measure the bearing of town Q from town P .

..... 065° [1]

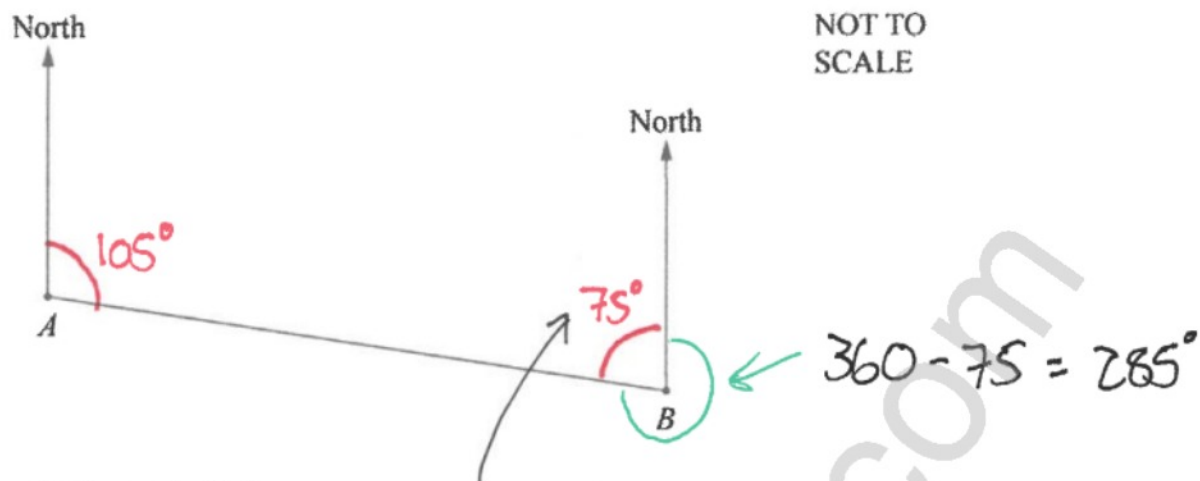
- (c) Town X is 28 km from town P on a bearing of 140° .

On the scale drawing, mark the position of town X .

[2]

$$28 \div 4 = 7 \text{ cm}$$

9



The bearing of B from A is 105° .

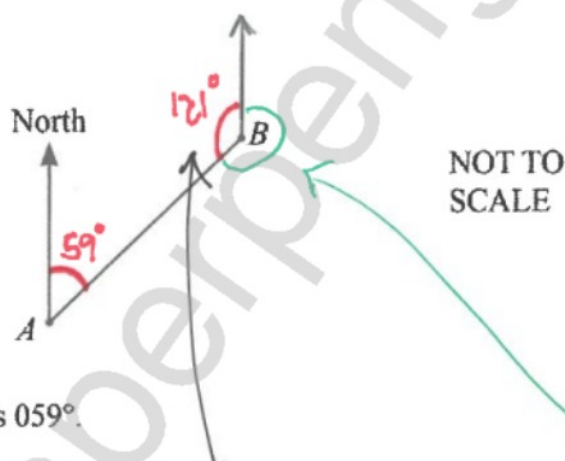
Find the bearing of A from B .

co-interior angles:
 $180 - 105 = 75^\circ$

$$360 - 75 = 285^\circ$$

..... 285° [2]

9



The bearing of B from A is 059° .

Work out the bearing of A from B .

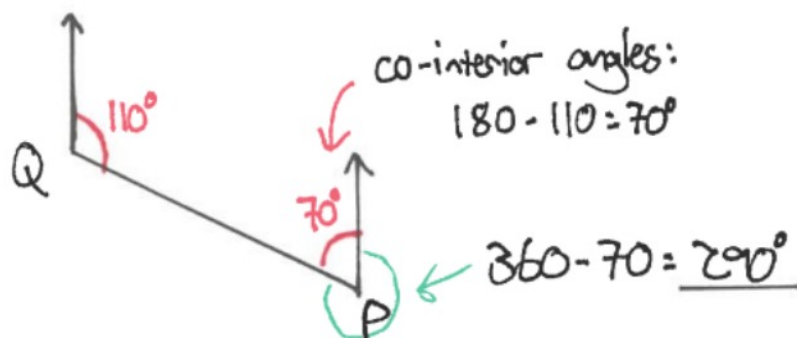
co-interior angles:
 $180 - 59 = 121^\circ$

$$360 - 121 = 239^\circ$$

..... 239° [2]

- 7 The bearing of P from Q is 110° .

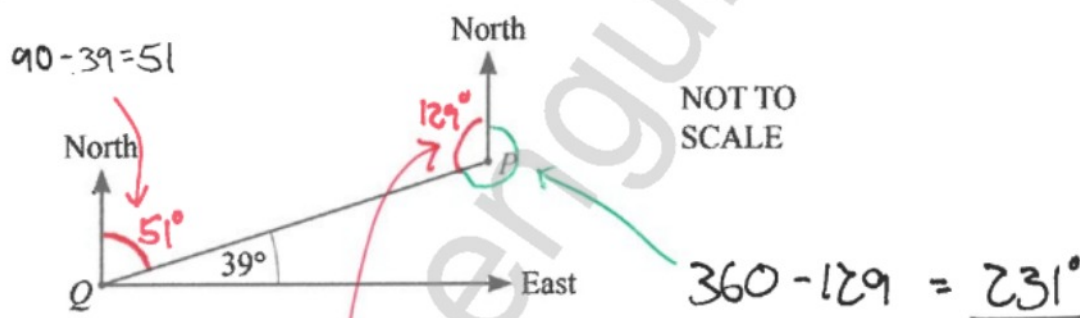
Find the bearing of Q from P .



290°

[2]

7



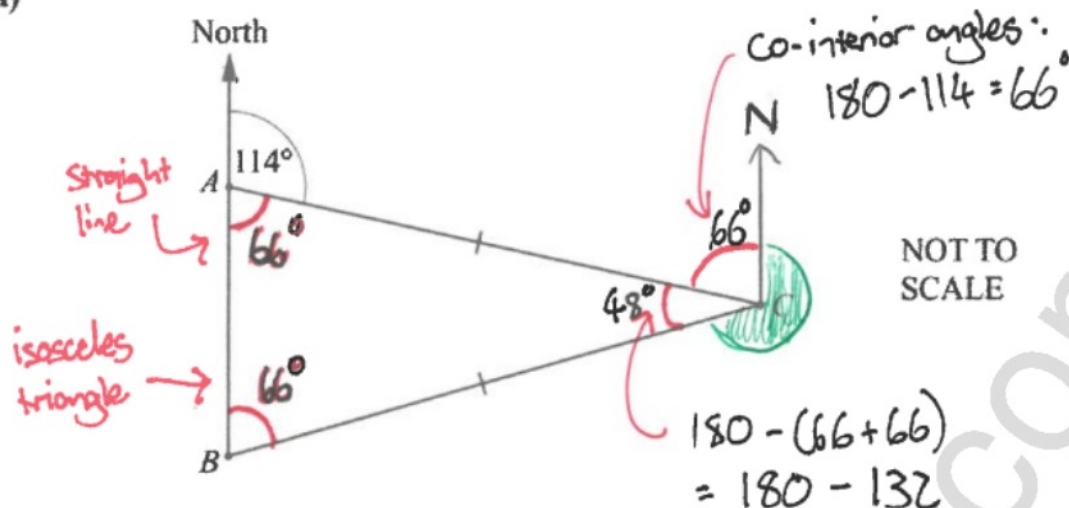
Find the bearing of Q from P .

co-interior angles:
 $180 - 51 = 129^\circ$

231°

[2]

4 (a)



A, B and C are three towns and the bearing of C from A is 114° .
 B is due south of A and $AC = BC$.

Calculate the bearing of B from C.

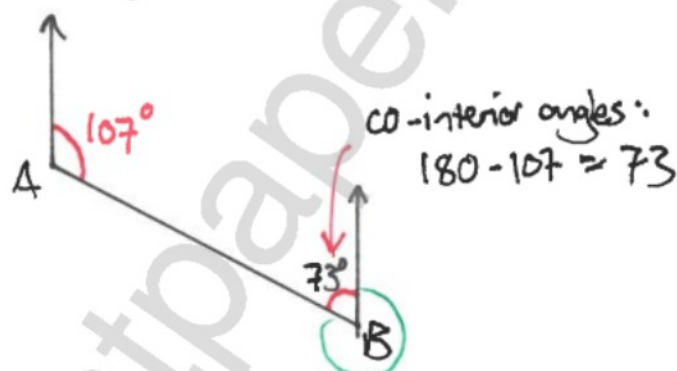
$$\begin{aligned} \text{Bearing (in green)} &= 360 - (66 + 48) \\ &= 360 - 114 \\ &= \underline{246^\circ} \end{aligned}$$

246°

[3]

13 The bearing of B from A is 107° .

Calculate the bearing of A from B.



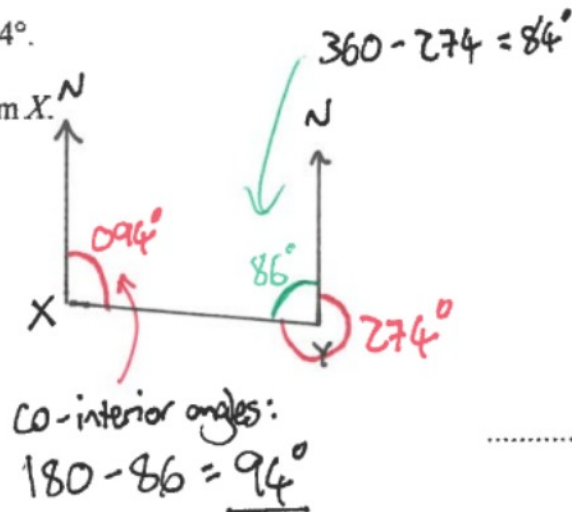
287°

[2]

$$360 - 73 = \underline{287^\circ}$$

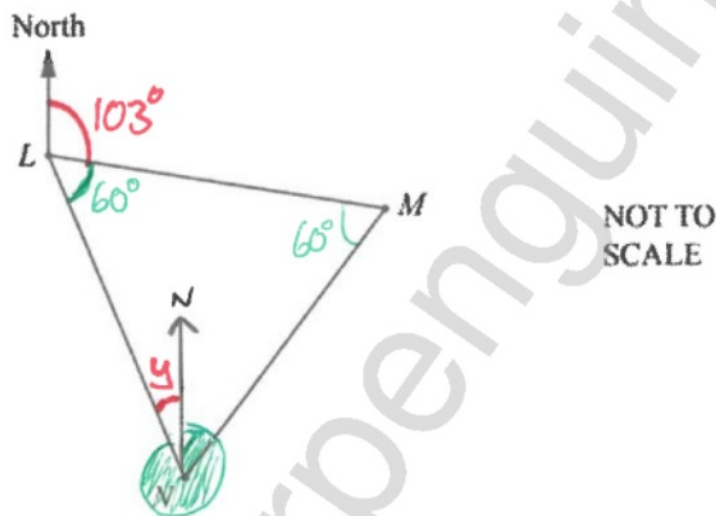
- 8 The bearing of X from Y is 274° .

Calculate the bearing of Y from X .



094° [2]

10



On a map, the positions of the towns L , M and N form an equilateral triangle.
The bearing of M from L is 103° .

Work out the bearing of L from N .

Bearing of N from L :

$$103 + 60 = 163$$

Find angle "y" using co-interior angles:

$$y = 180 - 163 = 17^\circ$$

Bearing of L from N (green):

$$360 - 17 = \underline{343^\circ}$$

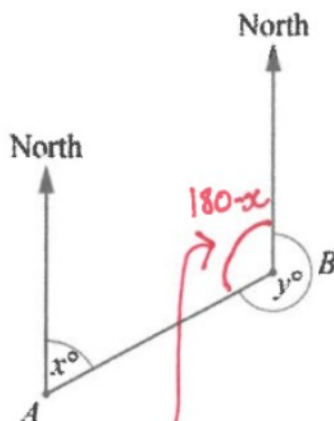
343° [2]

- 18 The bearing of B from A is x° .
The bearing of A from B is y° .
 $x : y = 2 : 7$

Calculate the value of y .

$$\frac{x}{y} = \frac{2}{7}$$

$$x = \frac{2}{7}y \quad \textcircled{1}$$



NOT TO
SCALE

CO-interior angles sum to 180° :
 $= 180 - x$

Angles around a point sum to 360° :

$$(180 - x) + y = 360$$

$$180 - x + y = 360$$

-180

-180

$$y - x = 180 \quad \textcircled{2}$$

$y =$

252°

[3]

Sub. ①: $y - \frac{2}{7}y = 180$

$$\frac{5}{7}y = 180$$

$\times 7$

$\times 7$

$$5y = 1260$$

$\div 5$

$\div 5$

$$y = 252^\circ$$