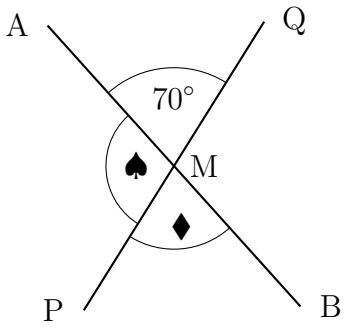
1. Here is a diagram of two straight lines AB and PQ which meet at M



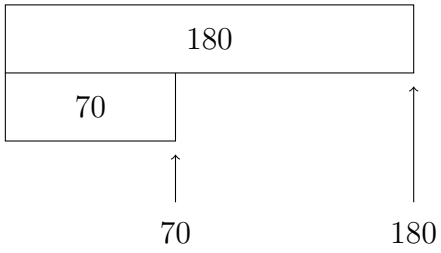
(i) Complete:

♠ = ... ° because **angles on a straight line add up to 180°**

♦ = ... ° can have 2 possible reasons

1. for ♠ **angles on a straight line add up to 180°**, then for ♦ **angles on a straight line add up to 180°**
2. the quick way: **vertically opposite angles are equal**

You may use these diagrams to help calculate ♠ and ♦



	H	T	O
	1	8	0
-			

180	
70	♠
♦	♠

Here are two straight lines which cross.

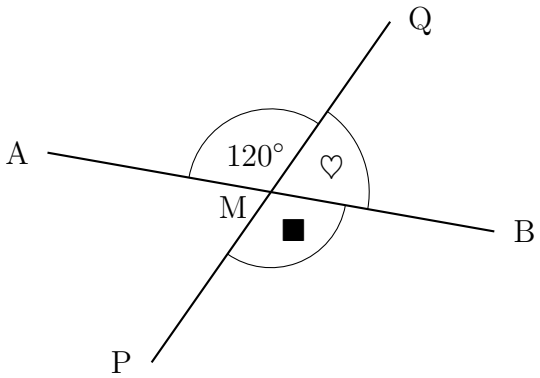
(ii) Complete:

♡ = ...° because .....

.....

.....

2. Here is a diagram of two straight lines AB and PQ which meet at M



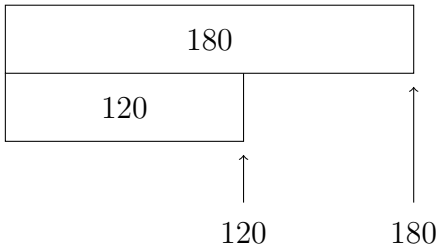
(i) Complete:

♡ = ... ° because **angles on a straight line add up to 180°**

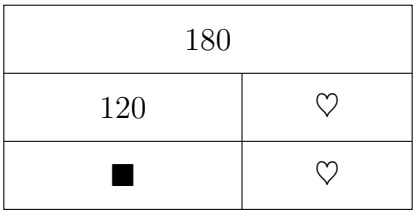
■ = ... ° can have 2 possible reasons

1. for ♡ **angles on a straight line add up to 180°**, then for ■ **angles on a straight line add up to 180°**
2. the quick way: **vertically opposite angles are equal**

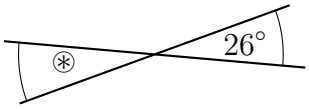
You may use these diagrams to help calculate ♡ and ■



	H	T	O
	1	8	0
-			



Here are two straight lines which cross.



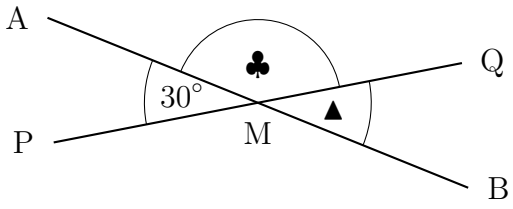
(ii) Complete:

⊛ = ...° because .....

.....

.....

3. Here is a diagram of two straight lines AB and PQ which meet at M



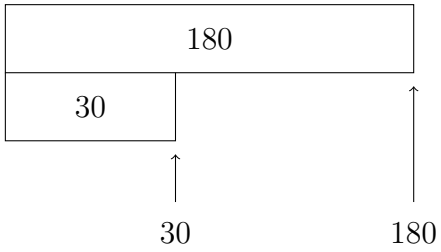
(i) Complete:

♣ = ... ° because **angles on a straight line add up to 180°**

▲ = ... ° can have 2 possible reasons

1. for ♣ **angles on a straight line add up to 180°**, then for ▲ **angles on a straight line add up to 180°**
2. the quick way: **vertically opposite angles are equal**

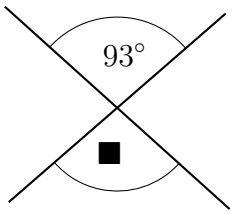
You may use these diagrams to help calculate ▲ and ♣



	H	T	O
	1	8	0
-			

180	
30	♣
▲	♣

Here are two straight lines which cross.



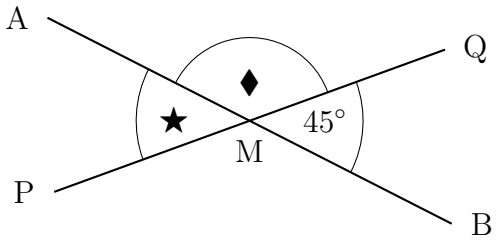
(ii) Complete:

■ = ...° because .....

.....

.....

4. Here is a diagram of two straight lines AB and PQ which meet at M



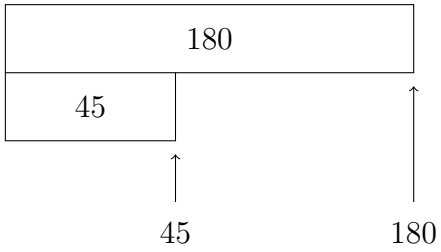
(i) Complete:

♦ = ... ° because **angles on a straight line add up to 180°**

★ = ... ° can have 2 possible reasons

1. for ♦ **angles on a straight line add up to 180°**, then for ★ **angles on a straight line add up to 180°**
2. the quick way: **vertically opposite angles are equal**

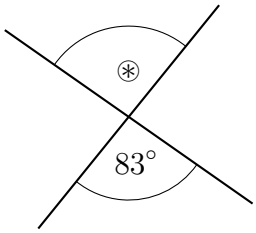
You may use these diagrams to help calculate ♦ and ★



	H	T	O
	1	8	0
-			

180	
45	♦
★	♦

Here are two straight lines which cross.



(ii) Complete:

⊛ = ...° because .....

.....

.....

Answers

1. (i) ♠ = 110, ♦ = 70 (ii) ♡ = 22 because vertically opposite angles are equal OR 158 and angles on a straight line add up to 180° twice

2. (i) ♡ = 60, ■ = 120 (ii) ⊛ = 26 because vertically opposite angles are equal OR 154 and angles on a straight line add up to 180° twice

3. (i) ♣ = 150, ▲ = 30 (ii) ■ = 93 because vertically opposite angles are equal OR 87 and angles on a straight line add up to 180° twice

4. (i) ♦ = 135, ★ = 45 (ii) ⊛ = 83 because vertically opposite angles are equal OR 97 and angles on a straight line add up to 180° twice