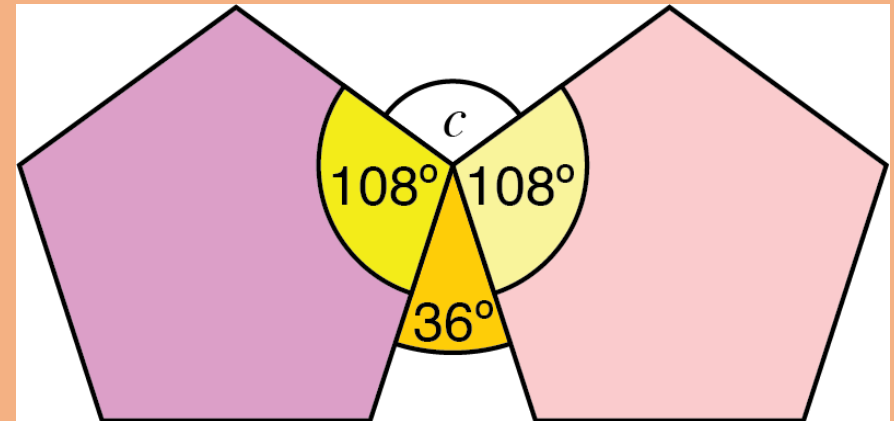


Protractor and Angle Work

Year 5 Maths



Drawing lines and angles accurately

1 Complete the angles by adding another line.

a) Draw a 60° angle.



c) Draw a 30° angle.



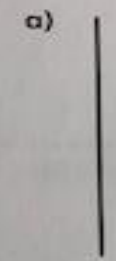
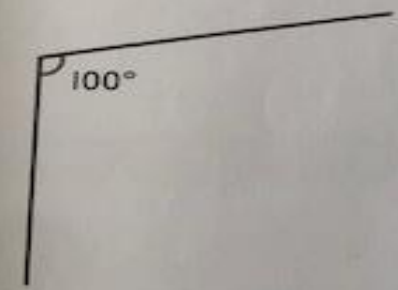
b) Draw a 120° angle.



d) Draw a 90° angle.

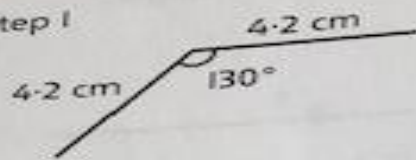


2 Draw two more different angles showing 100° in different orientations.

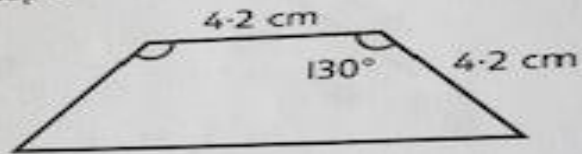


3 Copy each step to complete the design below. Use your drawing to calculate the missing length and angles.
The diagrams are not to scale.

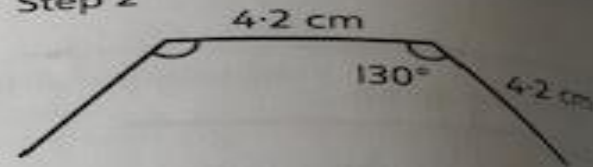
Step 1



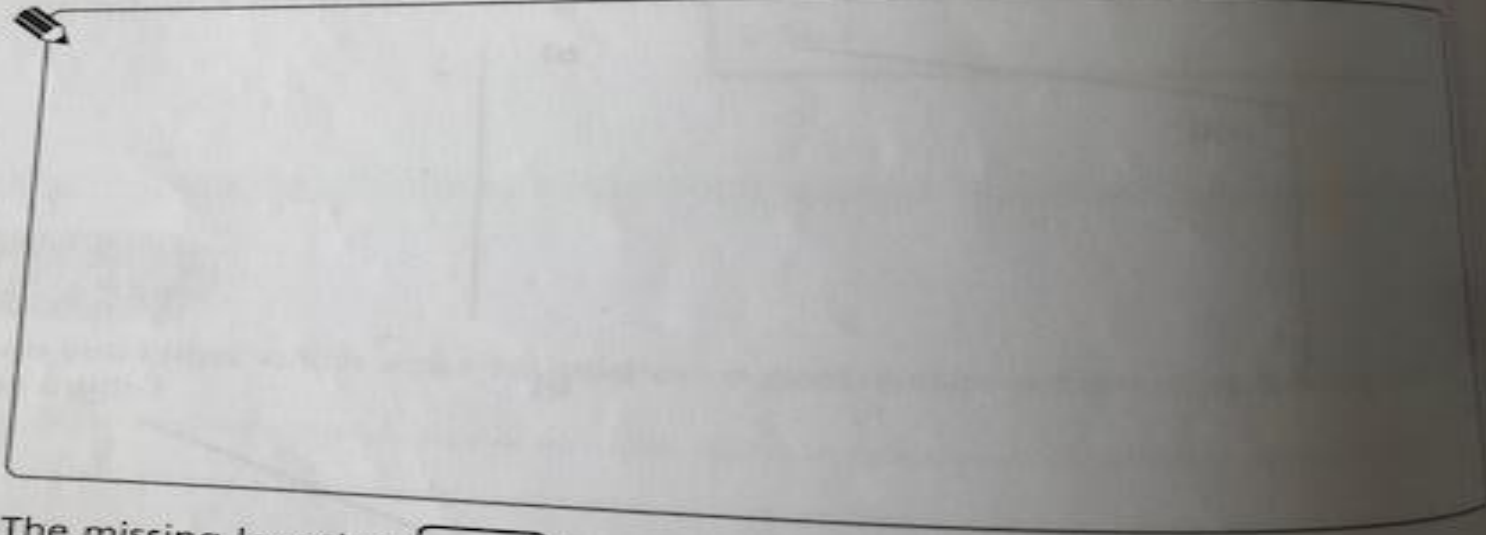
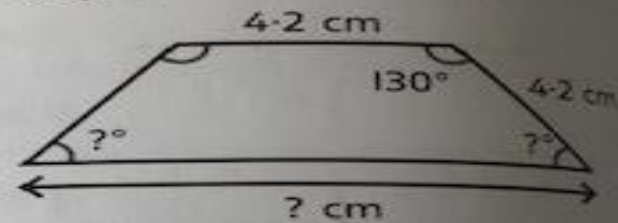
Step 3



Step 2



Step 4



The missing length is cm.

The missing angles are ° and °.

- 4 Draw a triangle with angles of 45° , 60° and 75° .
Are all of the sides the same length?



- 5 Draw a triangle with three angles of 60° . Make each side 3 cm long.



Reflect

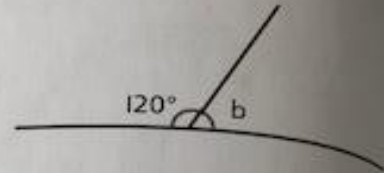
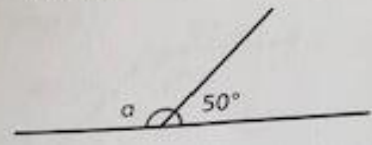
Draw three different angles showing exactly 45° .

-
-
-
-

Unit 13: Geometry - Angles

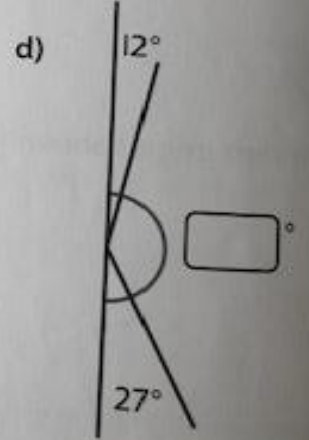
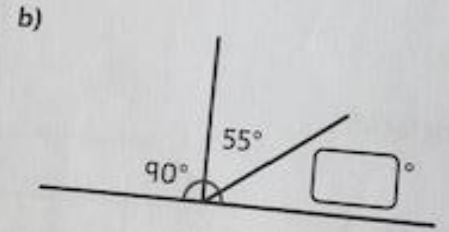
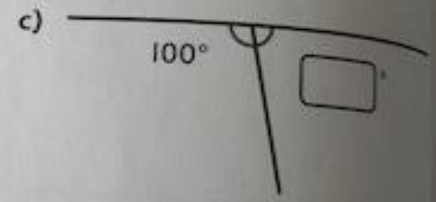
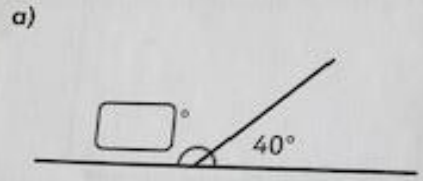
Calculating angles on a straight line

1 Calculate the size of the missing angles, then measure to test your prediction.

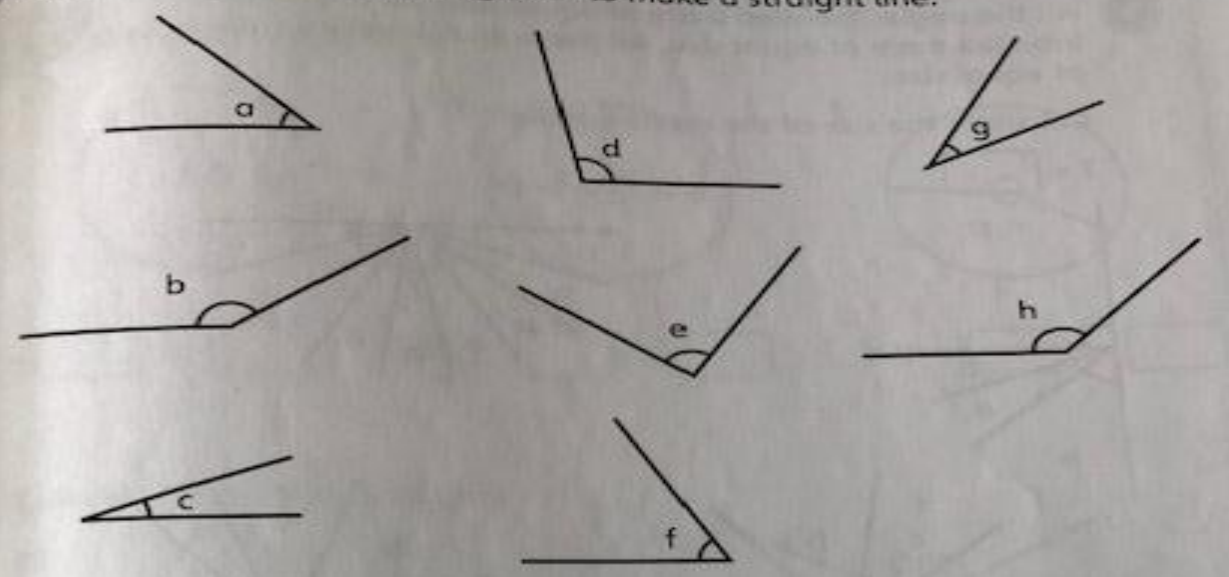


- a) I predict a is ° because $180 - \text{[]} = \text{[]}$.
- b) I predict b is ° because $180 - \text{[]} = \text{[]}$.

2 Calculate the missing angles.



3 a) Find two pairs that join together to make a straight line.



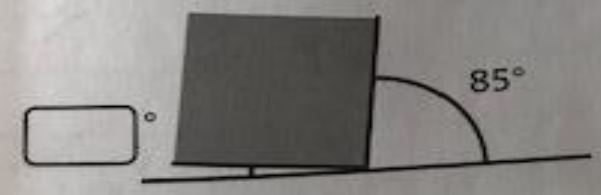
_____ and _____ or _____ and _____

b) Find three angles that join together to make a straight line.

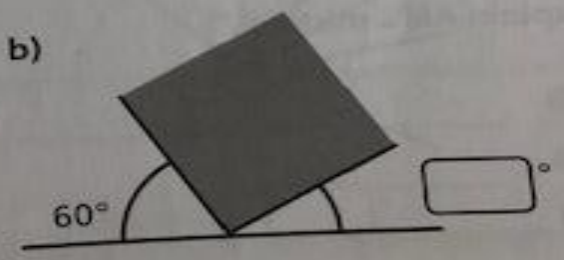
_____ and _____ and _____

4 Find the missing angles.

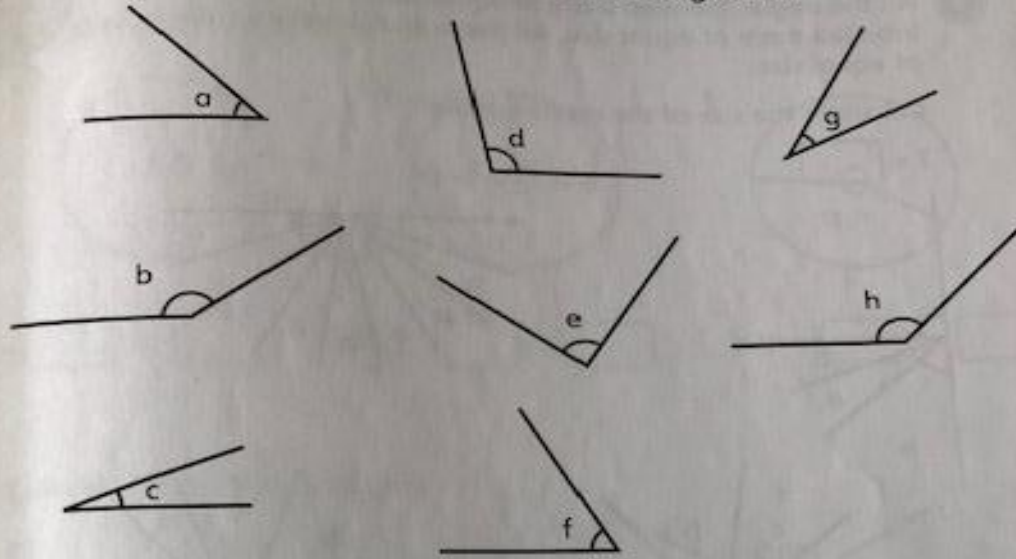
a)



b)



3 a) Find two pairs that join together to make a straight line.



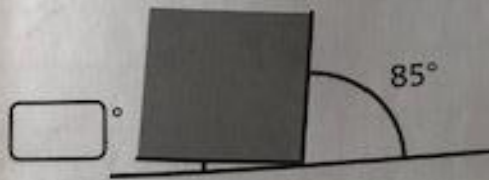
_____ and _____ or _____ and _____

b) Find three angles that join together to make a straight line.

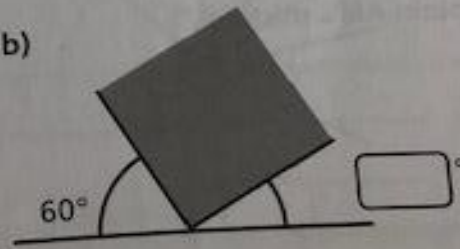
_____ and _____ and _____

4 Find the missing angles.

a)

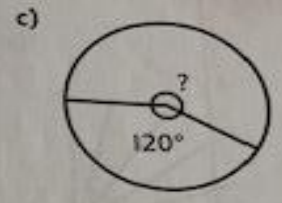
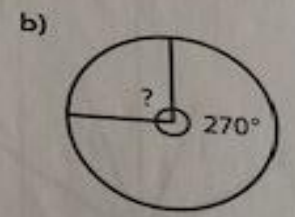
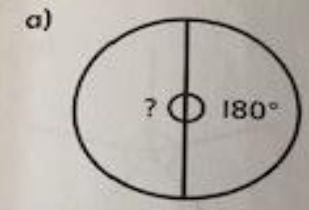


b)



Calculating angles around a point

1 Find the missing angles.

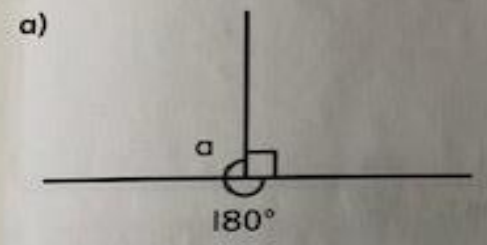


$360^\circ - \square^\circ = \square^\circ$

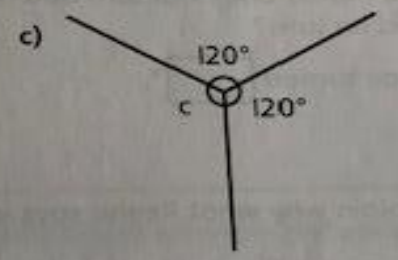
$360^\circ - \square^\circ = \square^\circ$

$360^\circ - \square^\circ = \square^\circ$

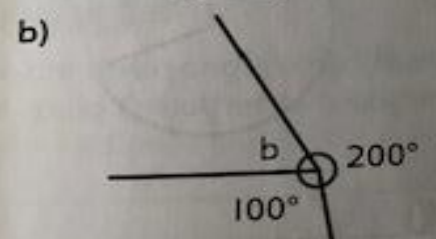
2 Calculate the missing angles.



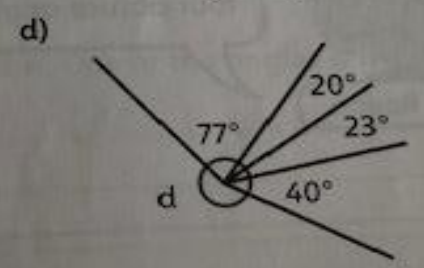
Angle a is °.



Angle c is °.

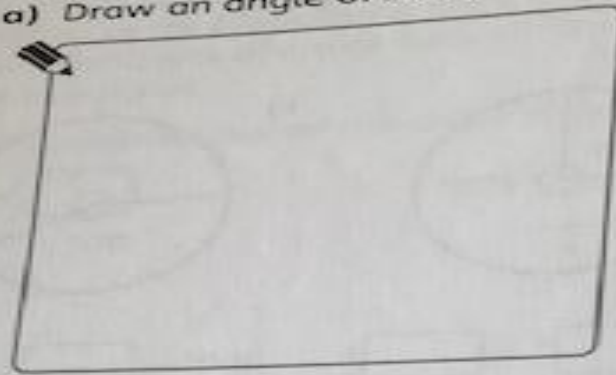


Angle b is °.

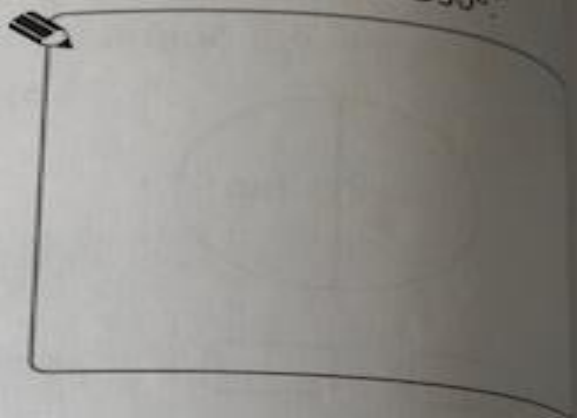


Angle d is °.

3 a) Draw an angle of 250° .



b) Draw an angle of 350° .



4 Max turns 170° then a further 85° .

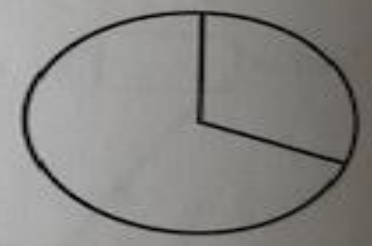
He makes one final turn and he is facing where he started. What angle did he turn?

Max turned $^\circ$.

5 Explain why what Reena says is incorrect.



I will split this into four obtuse angles.



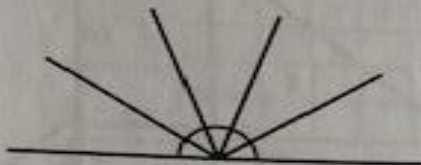
- 6 These angles have been split into angles of equal size.
Find the size of each angle.

CHALLENGE

a)



b)



c)



- d) Explain any patterns you notice.



Reflect

There are three angles that make a whole turn. One of the angles is 110° .
What could the other two angles be?



Hope you enjoyed it!