

Homework/Extension

Step 4: Vertically Opposite Angles

National Curriculum Objectives:

Mathematics Year 6: (6G4b) [Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles](#)

Differentiation:

Questions 1, 4 and 7 (Varied Fluency)

Developing Calculating angles using understanding that vertically opposite angles are equal. Includes 4 angles measured to the nearest 10 degrees.

Expected Calculating angles using understanding that vertically opposite angles are equal. Includes 4 angles measured to the nearest whole degree; up to 2 angles given per question.

Greater Depth Calculating angles using understanding that vertically opposite angles are equal. Includes up to 6 angles measured to the nearest whole degree; up to 2 angles given per question.

Questions 2, 5 and 8 (Varied Fluency)

Developing Decide whether a statement is true or false when calculating angles. Includes 4 angles measured to the nearest 10 degrees.

Expected Decide whether a statement is true or false when calculating angles. Includes 4 angles measured to the nearest whole degree; up to 2 angles given per question.

Greater Depth Decide whether a statement is true or false when calculating angles. Includes up to 6 angles measured to the nearest whole degree; up to 2 angles given per question.

Questions 3, 6 and 9 (Reasoning and Problem Solving)

Developing Decide which statement is correct and explain why when calculating angles. Includes 4 angles measured to the nearest 10 degrees.

Expected Decide which statement is correct and explain why when calculating angles. Includes 4 angles measured to the nearest whole degree; up to 2 angles given per question.

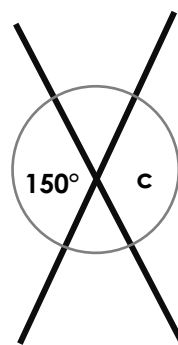
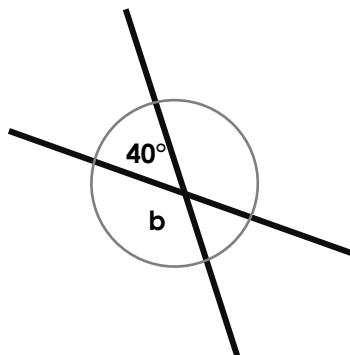
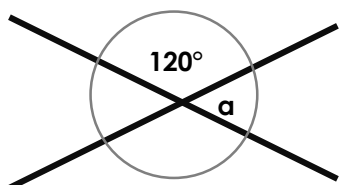
Greater Depth Decide which statement is correct and explain why when calculating angles. Includes up to 6 angles measured to the nearest whole degree; up to 2 angles given per question.

More [Year 6 Properties of Shapes](#) resources.

Did you like this resource? Don't forget to [review](#) it on our website.

Vertically Opposite Angles

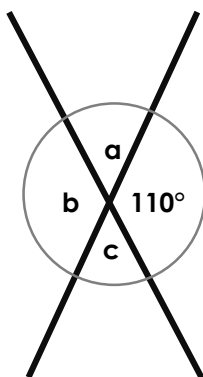
1. Find the value of the missing angles.



Not to scale

VF
HW/Ext

2. Tick the boxes to show whether the statements are true or false.



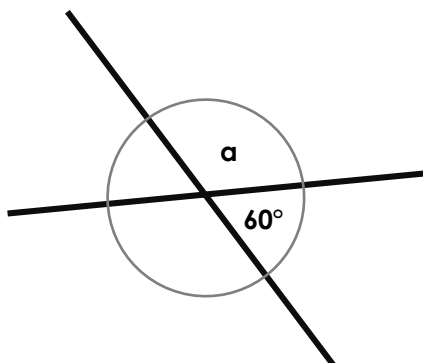
	T	F
A. Angle a is 70°	☐	☐
B. Angles a and b equal 220°	☐	☐
C. Angles c and b equal 180°	☐	☐



Not to scale

VF
HW/Ext

3. Hafsa and Chuan are calculating missing angles.



Hafsa

You need to subtract 60° from 180° to find the missing angle.



Chuan

You need to subtract 60° from 360° and then divide by 2 to find the missing angle.

Who is correct?

Explain how you know.

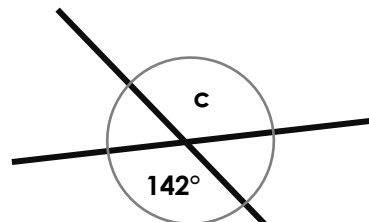
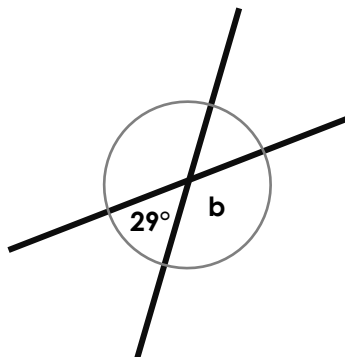
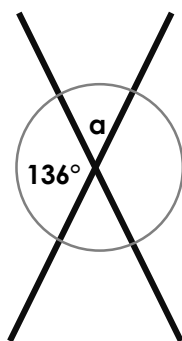


Not to scale

RPS
HW/Ext

Vertically Opposite Angles

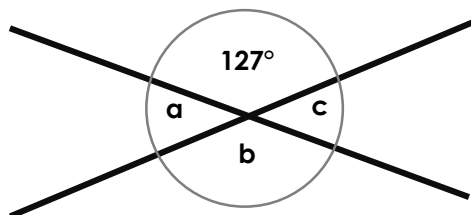
4. Find the value of the missing angles.



Not to scale

VF
HW/Ext

5. Tick the boxes to show whether the statements are true or false.



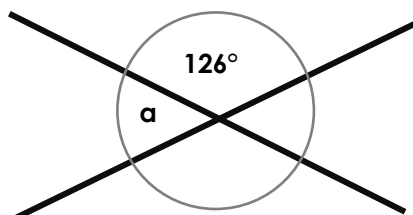
	T	F
A. Angle a is 53°	☐	☐
B. Angles a and c equal 180°	☐	☐
C. Angles a and c are equal	☐	☐



Not to scale

VF
HW/Ext

6. Steph and Sean are calculating missing angles.



Steph

To find the missing angle you can subtract 126° from 360° , then divide the answer by 2.



Sean

To find the missing angle you can double 126° , subtract the answer from 360° and then divide the answer by 2.

Who is correct?

Explain how you know.

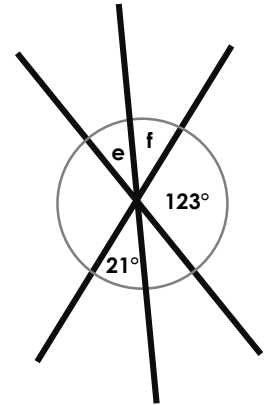
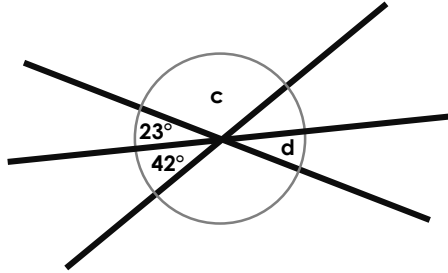
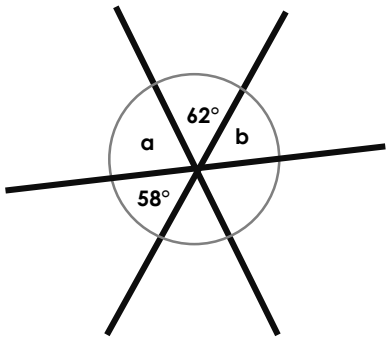


Not to scale

RPS
HW/Ext

Vertically Opposite Angles

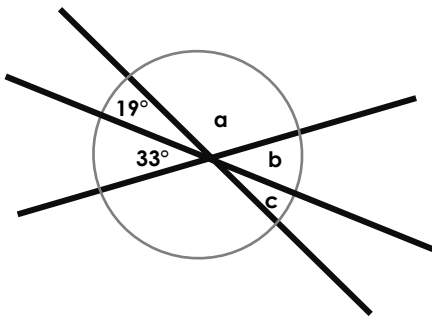
7. Find the value of the missing angles.



Not to scale

VF
HW/Ext

8. Tick the boxes to show whether the statements are true or false.



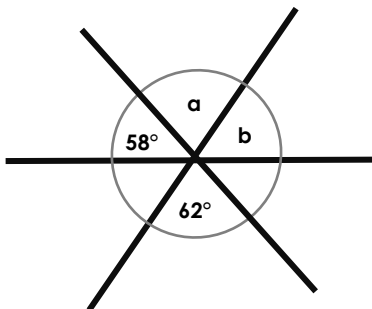
	T	F
A. Angles a, b and c add up to 180°	☐	☐
B. Angle a equals 128°	☐	☐
C. Angles b and c are equal	☐	☐



Not to scale

VF
HW/Ext

9. Alice and Johnny are calculating missing angles.



Alice

I know that opposite angles are equal so angle a must equal 62°. To find the missing angle I can add 58° and 62°, and then subtract the answer from 180°.



Johnny

To find the missing angles you need to take 62° and 58° from 360°, then divide by 2.

Who is correct?

Explain how you know.



Not to scale

RPS
HW/Ext

Homework/Extension

Vertically Opposite Angles

Developing

1. $A = 60^\circ$, $b = 140^\circ$, $c = 150^\circ$.
2. A is true, B is false (they add up to 180°), C is true.
3. Hafsa is correct because angles on a straight line add up to 180° .

Expected

4. $A = 44^\circ$, $b = 151^\circ$, $c = 142^\circ$.
5. A is true, B is false (they add up to 106°), C is true.
6. Sean is correct. Steph has subtracted 126 once instead of twice, she has forgotten the vertically opposite angle.

Greater Depth

7. $A = 60^\circ$, $b = 58^\circ$, $c = 115^\circ$, $d = 23^\circ$, $e = 36^\circ$, $f = 21^\circ$.
8. A is true, B is true, C is false (they measure 19° and 33°).
9. Alice is correct because angles on a straight line add up to 180° .