

Year 6 – Summer Block 1 – Geometry – Vertically Opposite Angles

About This Resource:

This PowerPoint has been designed to support your teaching of this small step. It includes a starter activity and an example of each question from the Varied Fluency and Reasoning and Problem Solving resources also provided in this pack. You can choose to work through all examples provided or a selection of them depending on the needs of your class.

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](#)

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

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

Year 6 – Summer Block 1 – Geometry
Good morning, Year 6! It's Thursday 4th June 2020

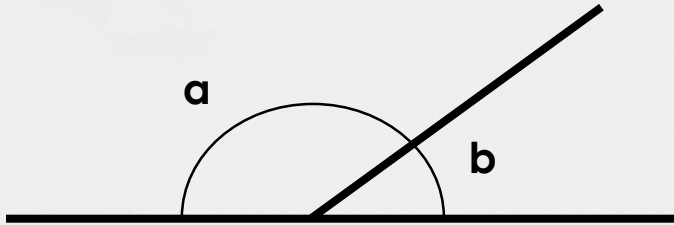
Part 1 - fluency

WALT: Calculate Vertically Opposite Angles

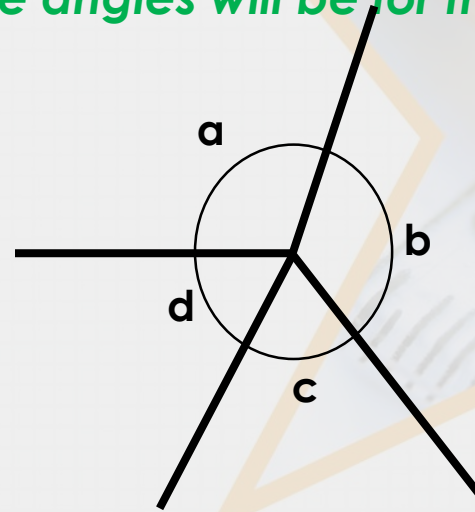
Introduction

Without using a protractor, which statement correctly matches each image.

Hint: Think about what the total sum of the angles will be for the half turn and the full turn.



1. $a = 18^\circ$ and $b = 162^\circ$
2. $a = 90^\circ$ and $b = 90^\circ$
3. $a = 112^\circ$ and $b = 58^\circ$
4. $a = 135^\circ$ and $b = 45^\circ$

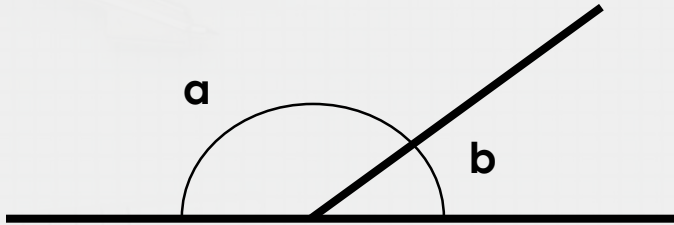


1. $a = 95^\circ$, $b = 122^\circ$, $c = 55^\circ$ and $d = 90^\circ$
2. $a = 25^\circ$, $b = 90^\circ$, $c = 100^\circ$ and $d = 145^\circ$
3. $a = 100^\circ$, $b = 112^\circ$, $c = 74^\circ$ and $d = 74^\circ$
4. $a = 94^\circ$, $b = 115^\circ$, $c = 43^\circ$ and $d = 40^\circ$

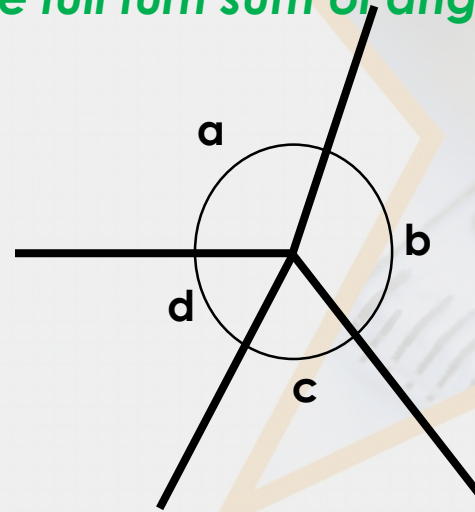
Not drawn to scale.

Introduction

Without using a protractor, which statement correctly matches each image.
The half turn sum of angles is 180° and the full turn sum of angles is 360° .



1. $a = 18^\circ$ and $b = 162^\circ$
2. $a = 90^\circ$ and $b = 90^\circ$
3. $a = 112^\circ$ and $b = 58^\circ$
4. $a = 135^\circ$ and $b = 45^\circ$

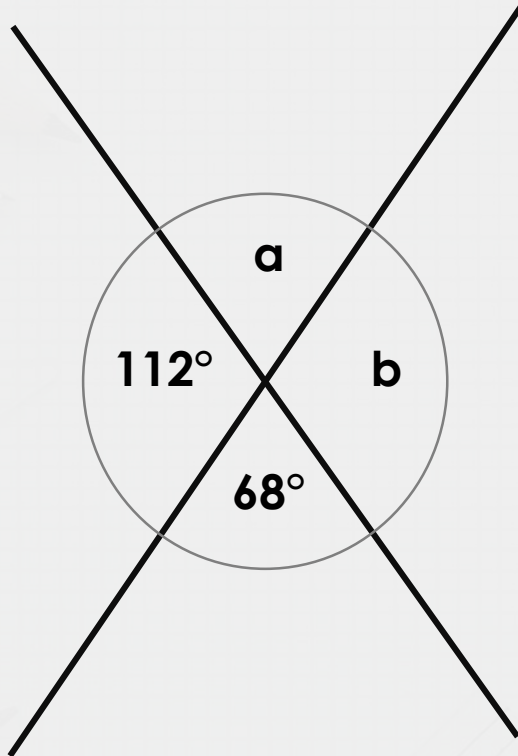


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Not drawn to scale.

Varied Fluency 1

Calculate the missing angles. *What do you notice about the opposite angles?*



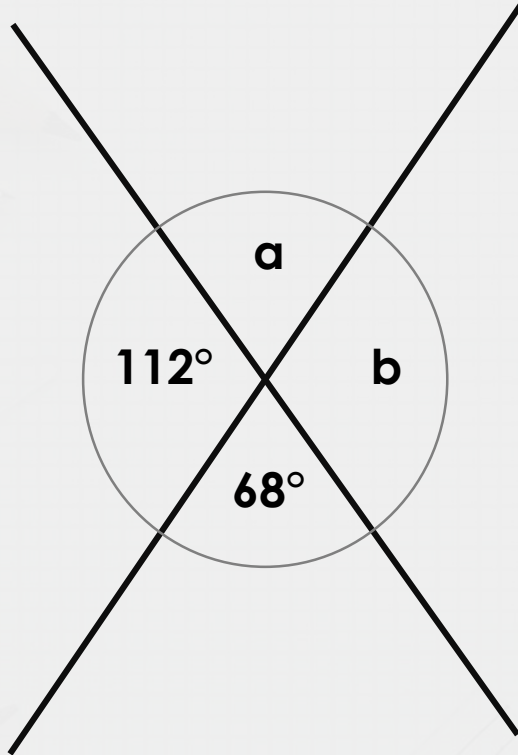
$a =$

$b =$

Not drawn to scale.

Varied Fluency 1

Calculate the missing angles. *The opposite angles match! Also, remember that the sum of all of the angles will be 360° as they make up a full turn.*



$a =$

68°

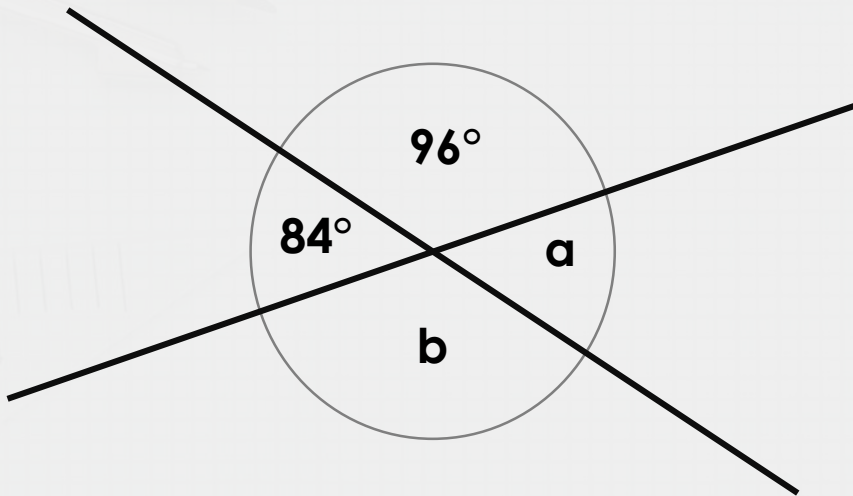
$b =$

112°

Not drawn to scale.

Varied Fluency 2

Complete the statement. Hint: $a + b = \text{half turn}$.

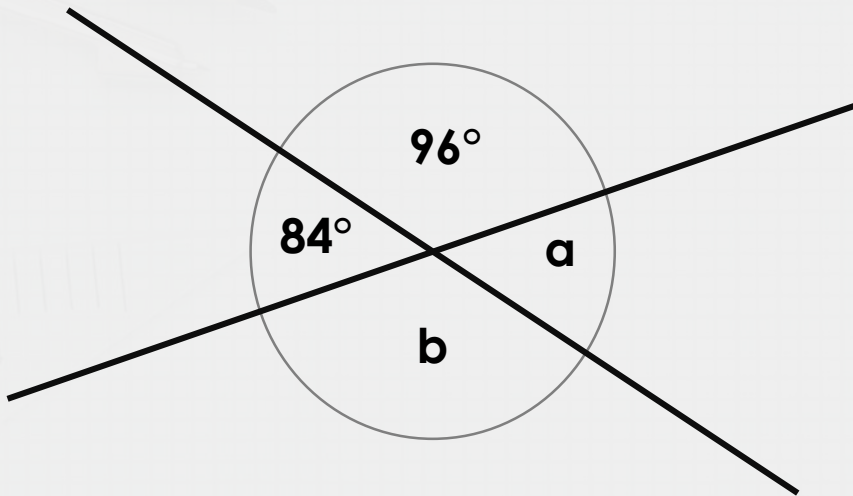


$$a + b =$$

Not drawn to scale.

Varied Fluency 2

Complete the statement.



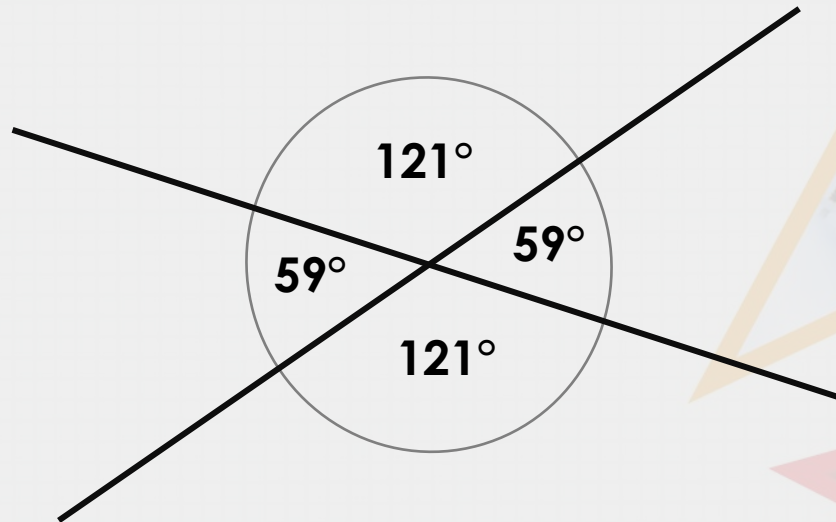
$$a + b =$$

$$180^\circ$$

Not drawn to scale.

Varied Fluency 3

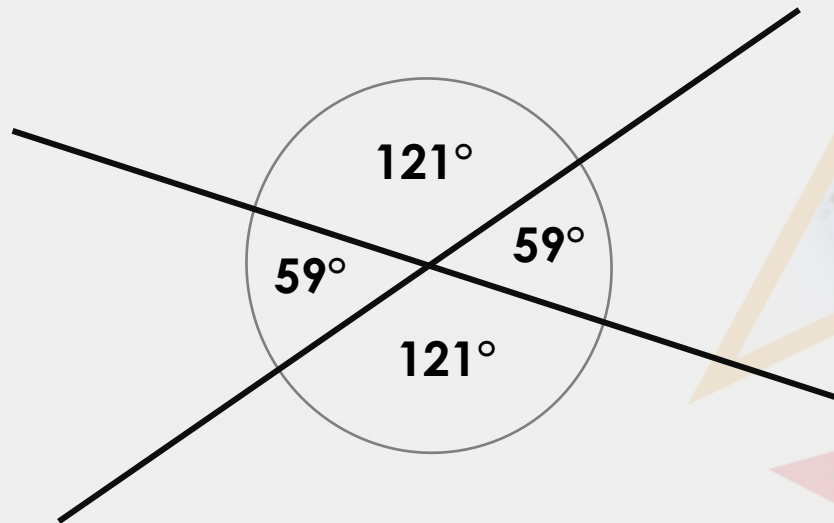
Which angles total 180° ?



Not drawn to scale.

Varied Fluency 3

Which angles total 180° ?



$$121^\circ + 59^\circ = 180^\circ$$

Not drawn to scale.

Varied Fluency 4

You have drawn 2 straight lines that cross each other. 1 set of vertically opposite angles measure 62° each.

What is the size of the other vertically opposite angles?

Varied Fluency 4

You have drawn 2 straight lines that cross each other. 1 set of vertically opposite angles measure 62° each.

What is the size of the other vertically opposite angles?

118° each

Well done! It's over to you now.

Go to Part 2 and choose your challenge! Normal rules apply: page 1 will give you an easier challenge, page 2 will be about the same as what we've just practised and page 3 will be more of a stretch.

You only need to do the first set of questions on your chosen challenge – the 'A' questions. If you want extra practice, you can then do the 'B' questions of your chosen challenge page. When you finish, don't forget to mark your answers before sharing, so I can see where you need help.