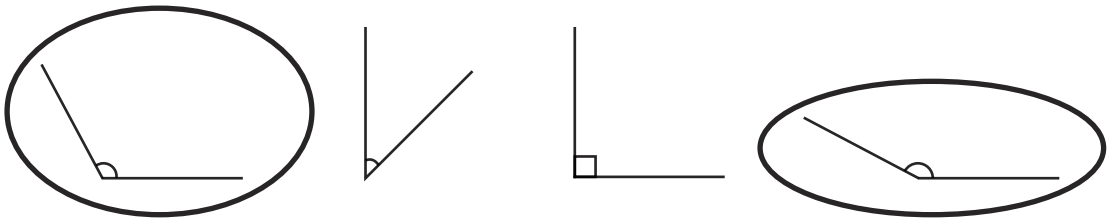
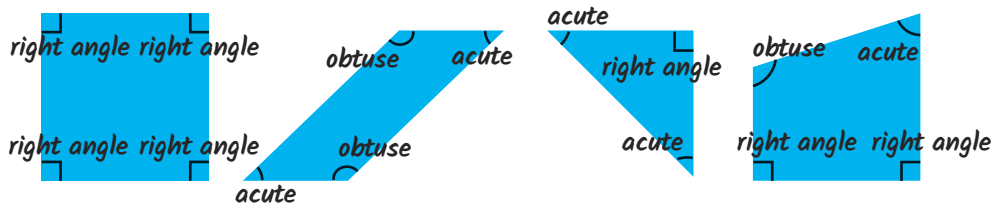
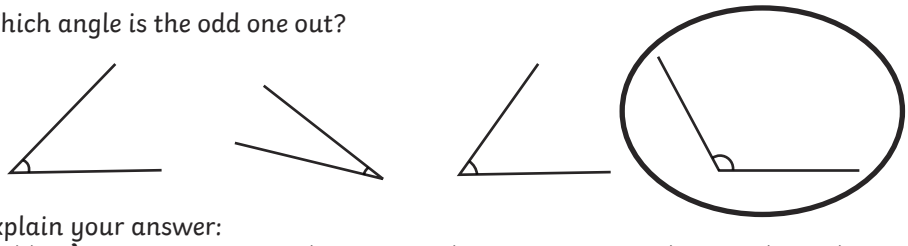
1) Circle the obtuse angles:



2) Look at these shapes. Label each of the interior angles as obtuse, acute or a right angle.



1) Which angle is the odd one out?



Explain your answer:
Children's own responses, such as: one is obtuse; one is more than a right angle; one is more than 90 degrees.

2) Romesh says, "A triangle can have two obtuse angles."
Is he correct? ***No.***
Prove it!
Accept answers, drawn or written, which show an understanding that the shape would never be able to have closed sides if two angles are obtuse.

1) Write a statement about the angles in a trapezium that is

a) never true: ***Answers may include: A trapezium can have more than two obtuse angles; can have more than two acute angles; always has four angles the same.***

b) always true: ***Answers may include: A trapezium always has at least two pairs of equal angles; always has two acute and two obtuse angles.***

Explain your answer: ***Multiple answers possible.***

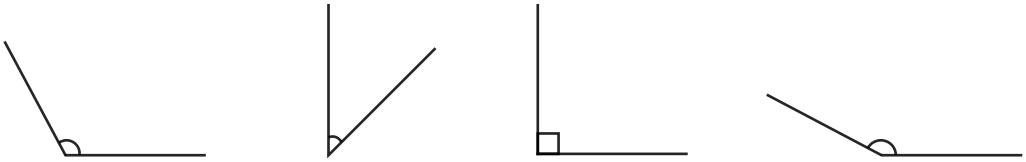
2) Zafi adds three acute angles together to make an obtuse angle.

a) What is the smallest size her angles can be?
Accept any combination of three angles totalling 91°.

b) What is the largest?
Accept any combination of three acute angles totalling 179°.

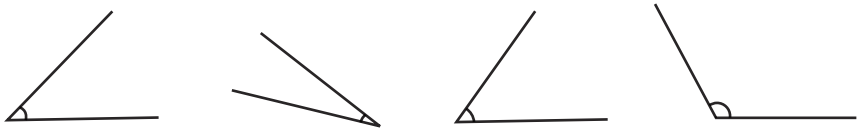
c) Prove it!
Children's own responses, showing an understanding that the smallest possible obtuse angle is 91° and the largest is 179° and that the three angles must all be smaller than 90° to be acute.

1) Circle the obtuse angles:



2) Look at these shapes. Label each of the interior angles as obtuse, acute or a right angle.

1) Which angle is the odd one out?



Explain your answer:

_____

_____

2) Romesh says, "A triangle can have two obtuse angles."

Is he correct? _____

Prove it!

_____

_____

1) Write a statement about the angles in a trapezium that is

a) never true: _____

_____

b) always true: _____

_____

Explain your answer: _____

2) Zafi adds three acute angles together to make an obtuse angle.

a) What is the smallest size her angles can be? _____

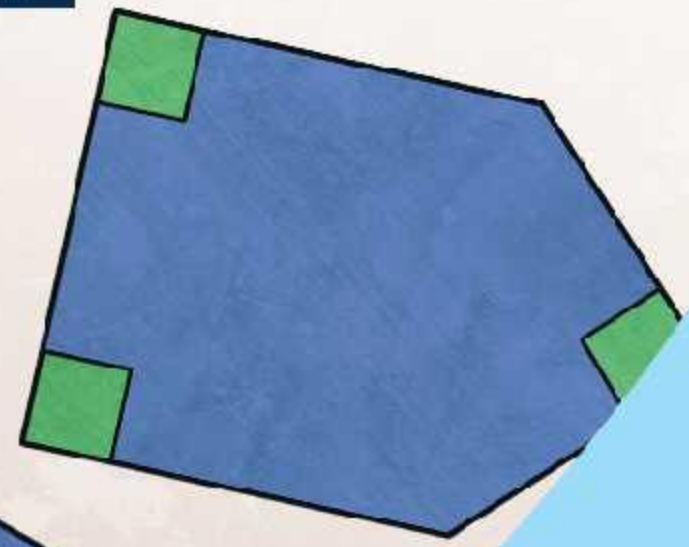
b) What is the largest? _____

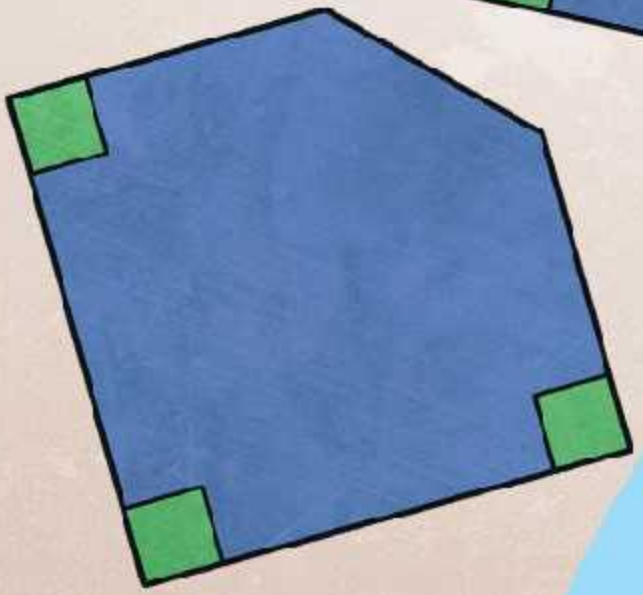
c) Prove it! _____

_____

_____

Diving into Mastery





Identify Angles

Diving into Mastery Guidance for Educators

Each activity sheet is split into three sections, diving, deeper and deepest, which are represented by the following icons:

These carefully designed activities take your children through a learning journey, initially ensuring they are fluent with the key concept being taught; then applying this to a range of reasoning and problem-solving activities.

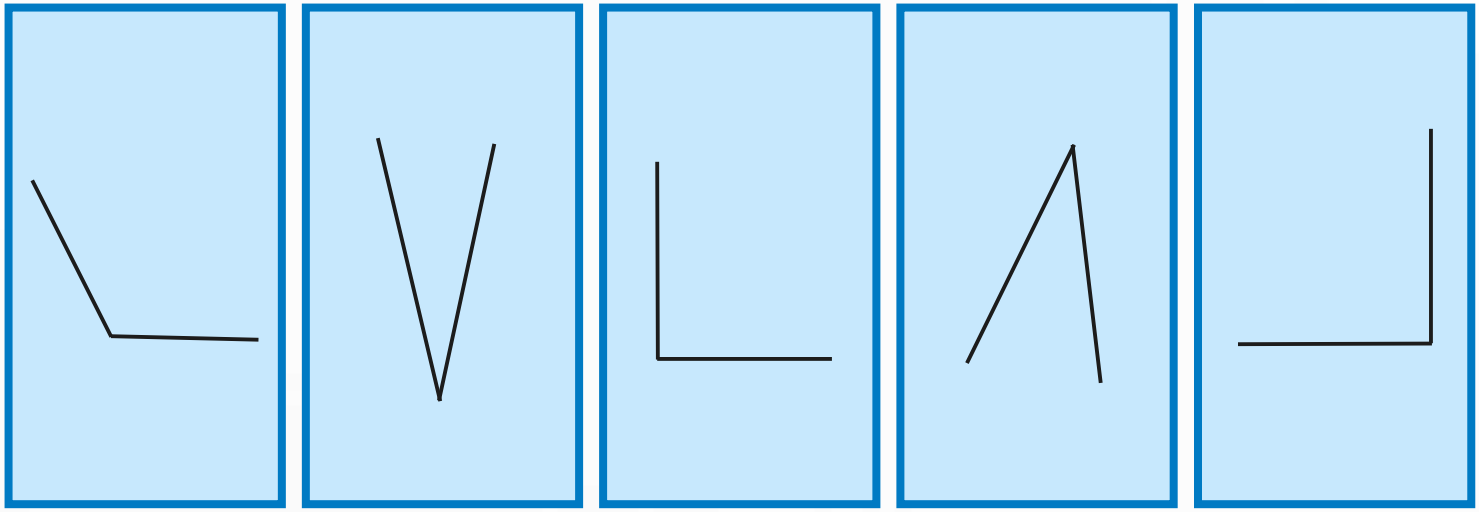
These sheets might not necessarily be used in a linear way. Some children might begin at the 'Deeper' section and in fact, others may 'dive straight in' to the 'Deepest' section if they have already mastered the skill and are applying this to show their depth of understanding.

National Curriculum Objective

- Identify acute and obtuse angles and compare and order angles up to two right angles by size.

Identify Angles | **Diving**

Which angles are acute?

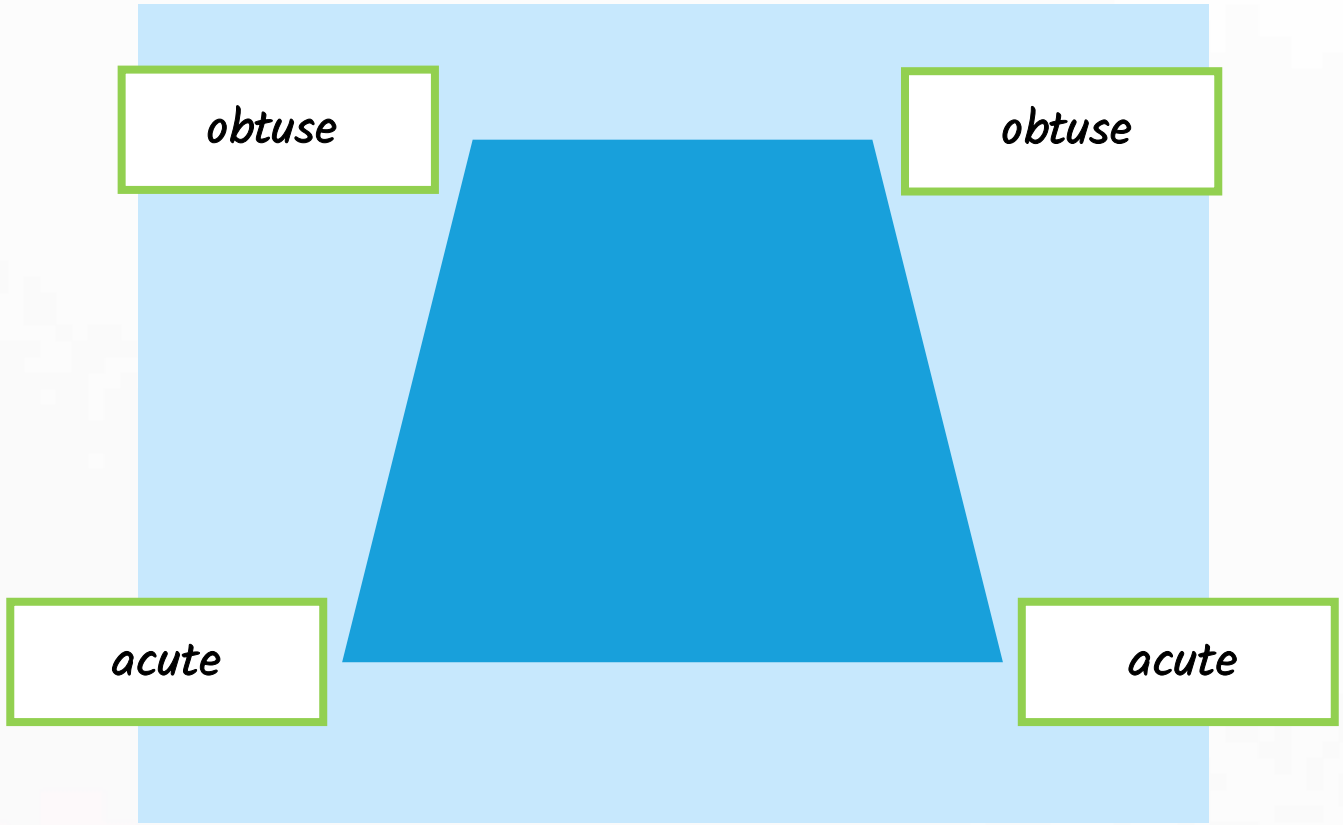


What other types of angle can you identify above?

one obtuse angle and two right angles

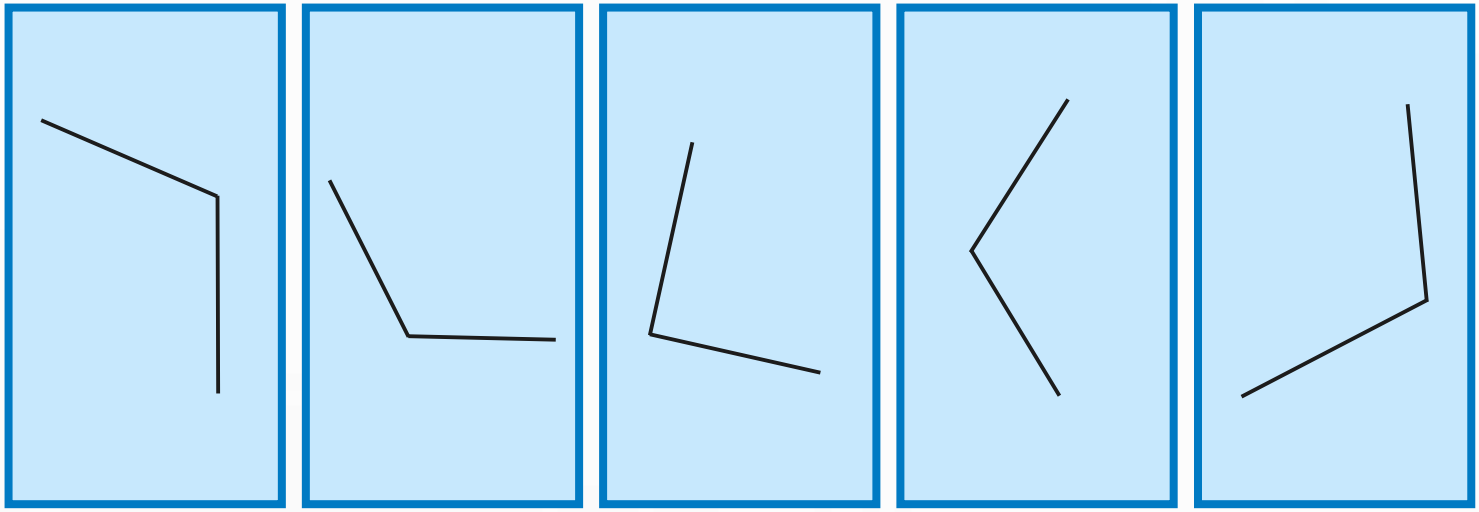
Identify Angles | **Diving**

Look at this trapezium.
What types of angles can you see inside it?



Identify Angles | **Deeper**

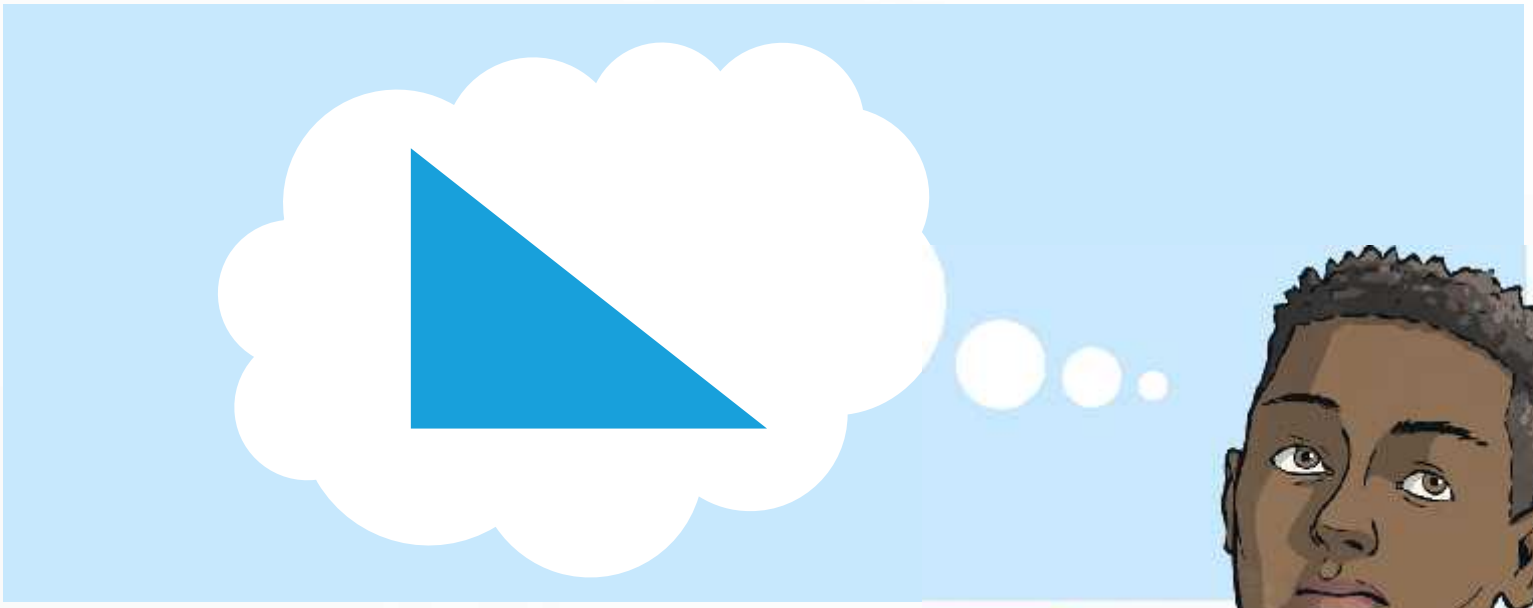
Which angle is the odd one out?



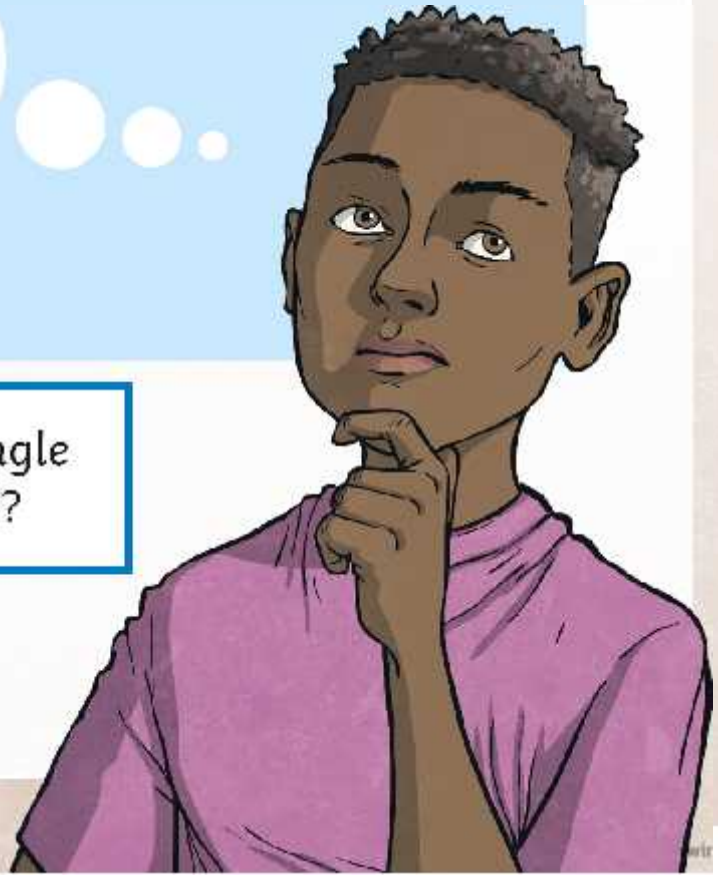
Why?

It's the only angle that isn't obtuse; it's a right angle.

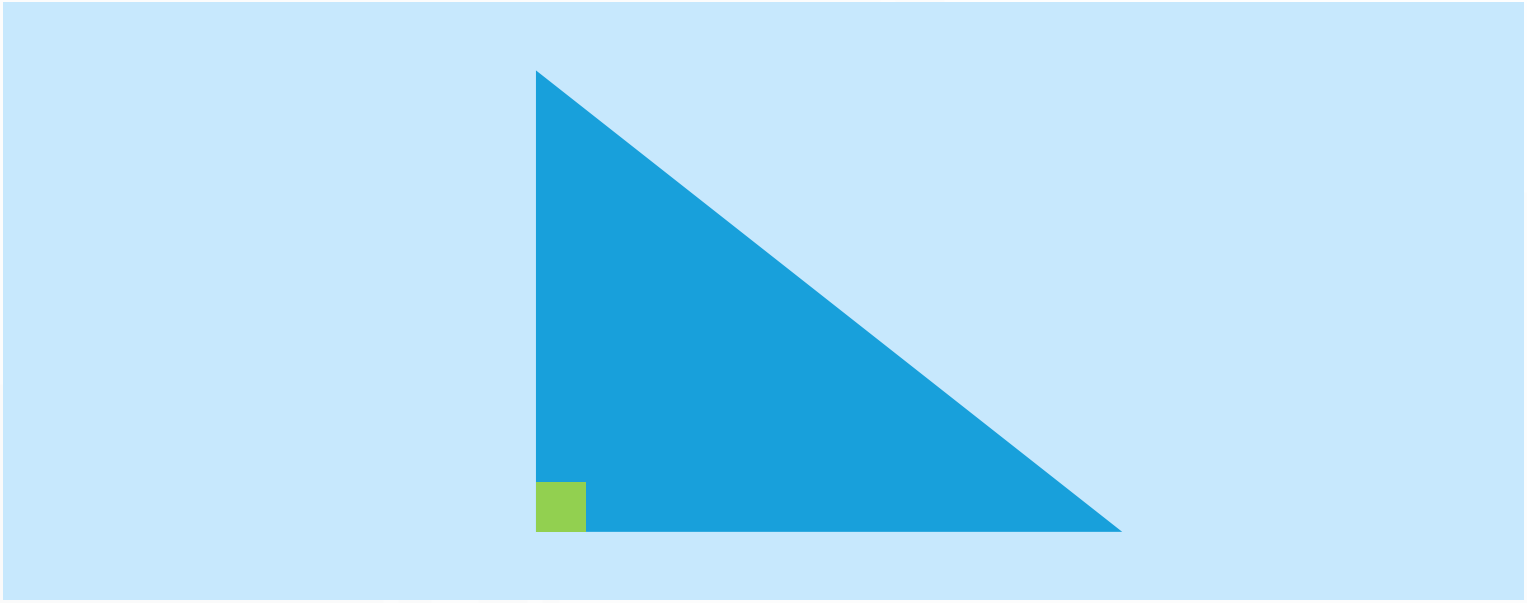
Identify Angles | **Deeper**



Is it possible to draw a right-angled triangle where one of the other angles is obtuse?



Identify Angles | **Deeper**



The angles in a triangle always total 180 degrees. Therefore, in a right-angled triangle, the right angle is 90 degrees, making it impossible for either angles to be obtuse.

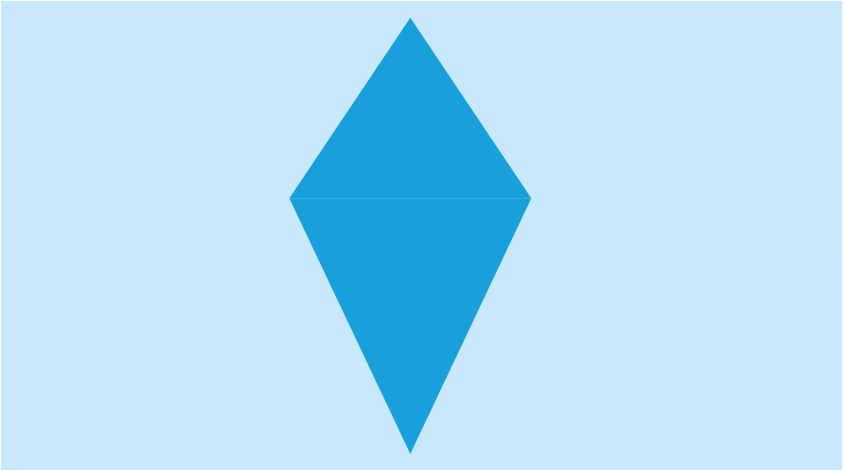
Identify Angles | **Deepest**

Which of these statements about a kite is:

a) never true?

b) always true?

c) sometimes true?



A kite has two equal angles.	*always true*
A kite has four right angles.	*never true*
A kite has two equal obtuse angles.	*sometimes true*

Identify Angles | **Deepest**

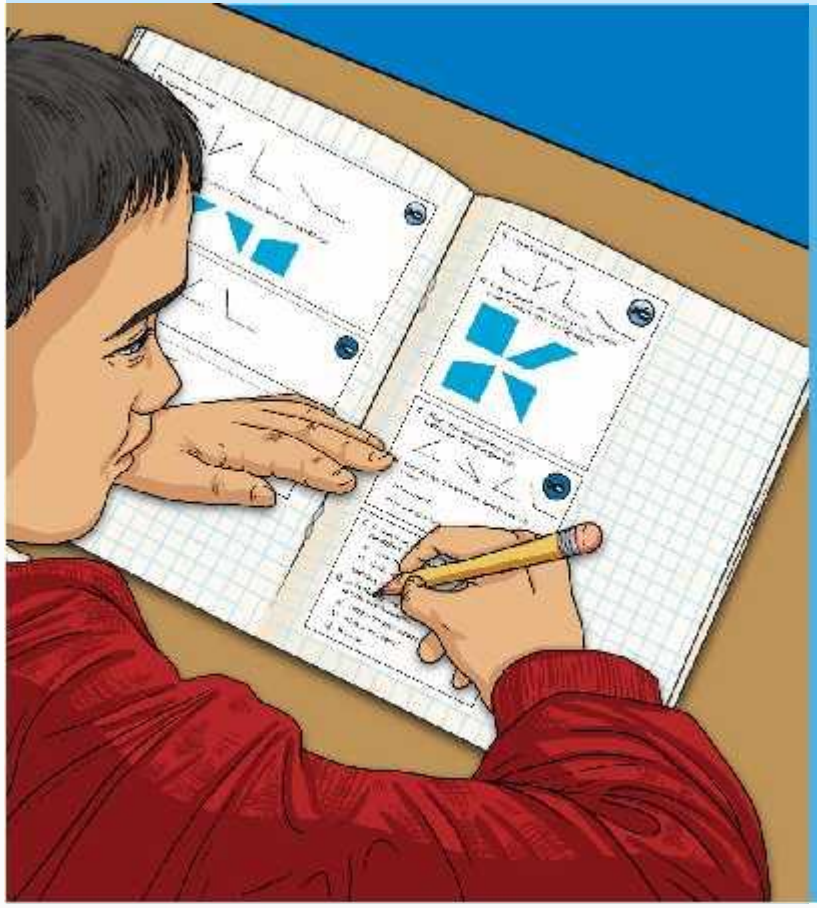
A right angle is 90°.
An obtuse angle is greater than 90° but smaller than 180°.
An acute angle is smaller than 90°.

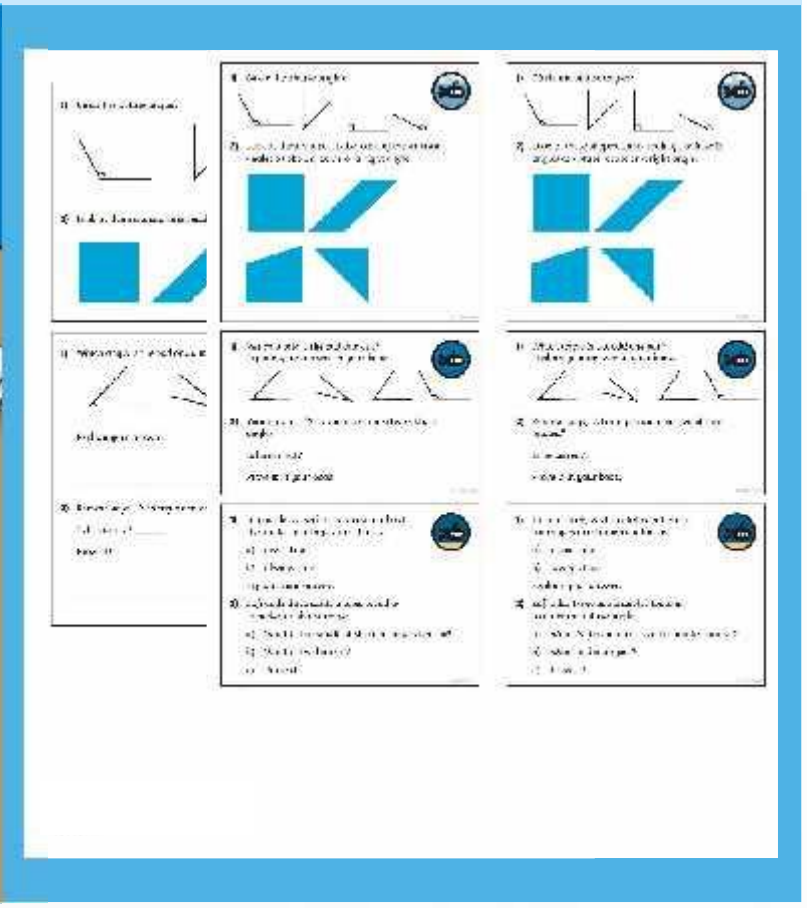
Using these facts, what is the smallest number of degrees you could add to **45°** to make an obtuse angle? How do you know?

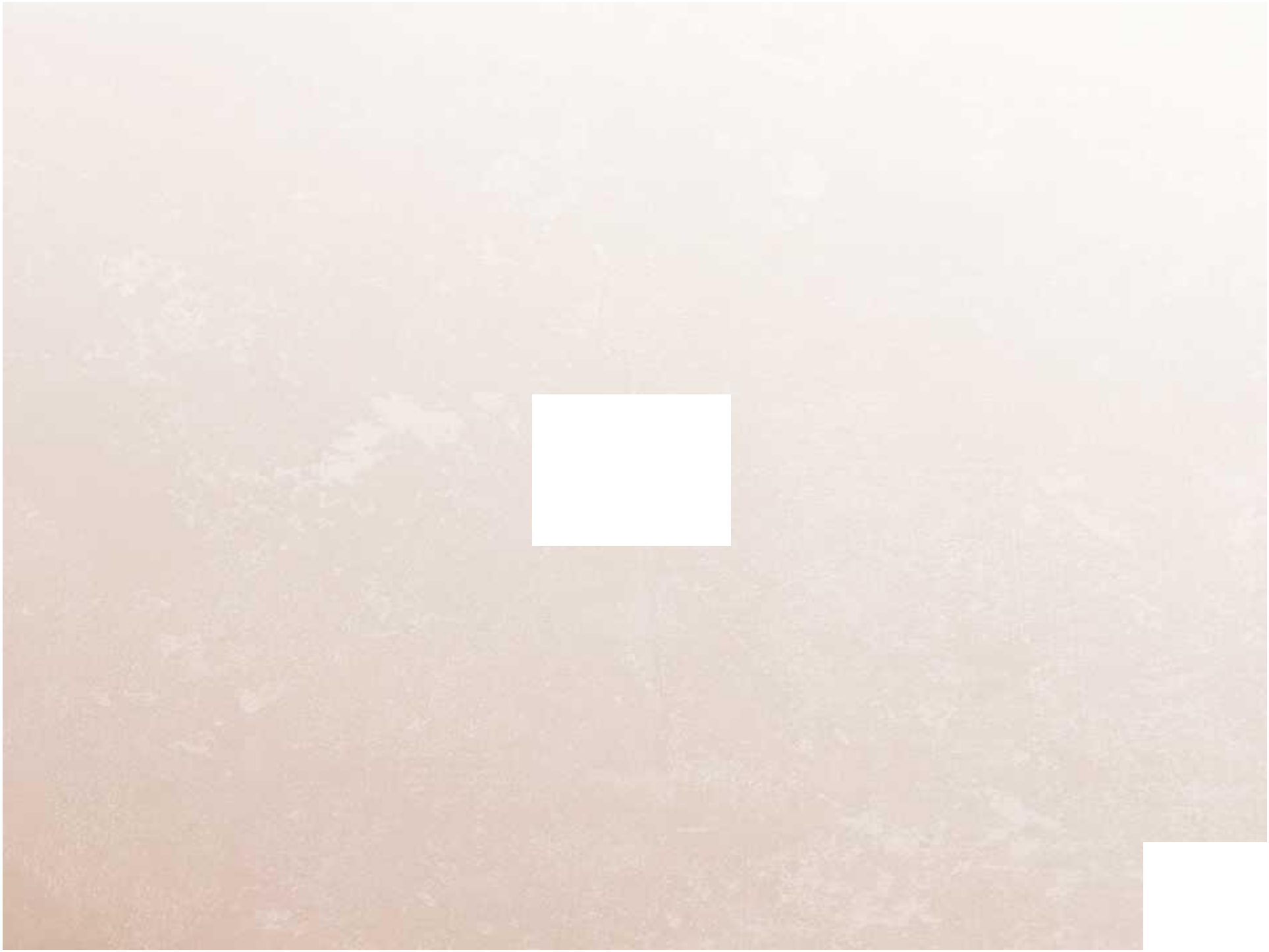
46°
The smallest obtuse angle must be 91° and 45 + 46 = 91.

Identify Angles

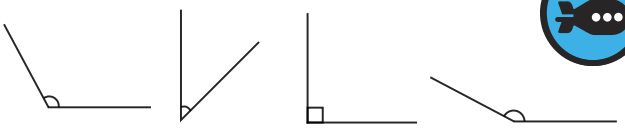
Dive in by completing your own activity!



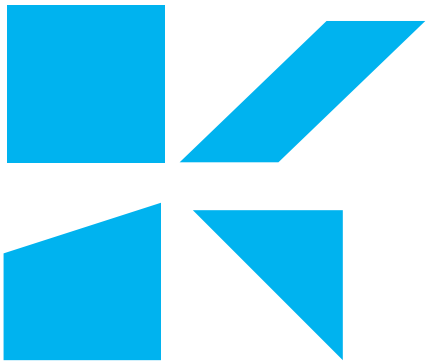




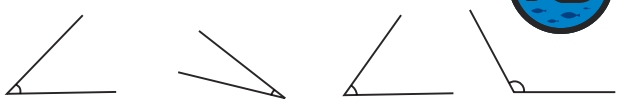
1) Circle the obtuse angles:



2) Look at these shapes. Label each of the interior angles as obtuse, acute or a right angle.



1) Which angle is the odd one out?
Explain your answer in your book.



2) Romesh says, "A triangle can have two obtuse angles."

Is he correct? _____

Prove it in your book.

1) In your book, write a statement about the angles in a trapezium that is

a) never true:

b) always true:

Explain your answer.

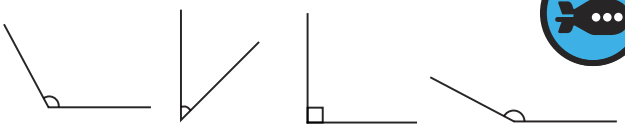
2) Zafi adds three acute angles together to make an obtuse angle.

a) What is the smallest size her angles can be?

b) What is the largest?

c) Prove it!

1) Circle the obtuse angles:



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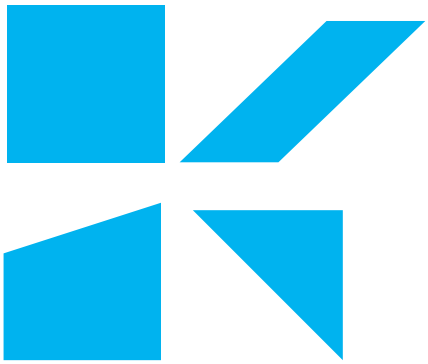

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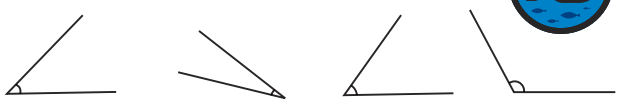

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