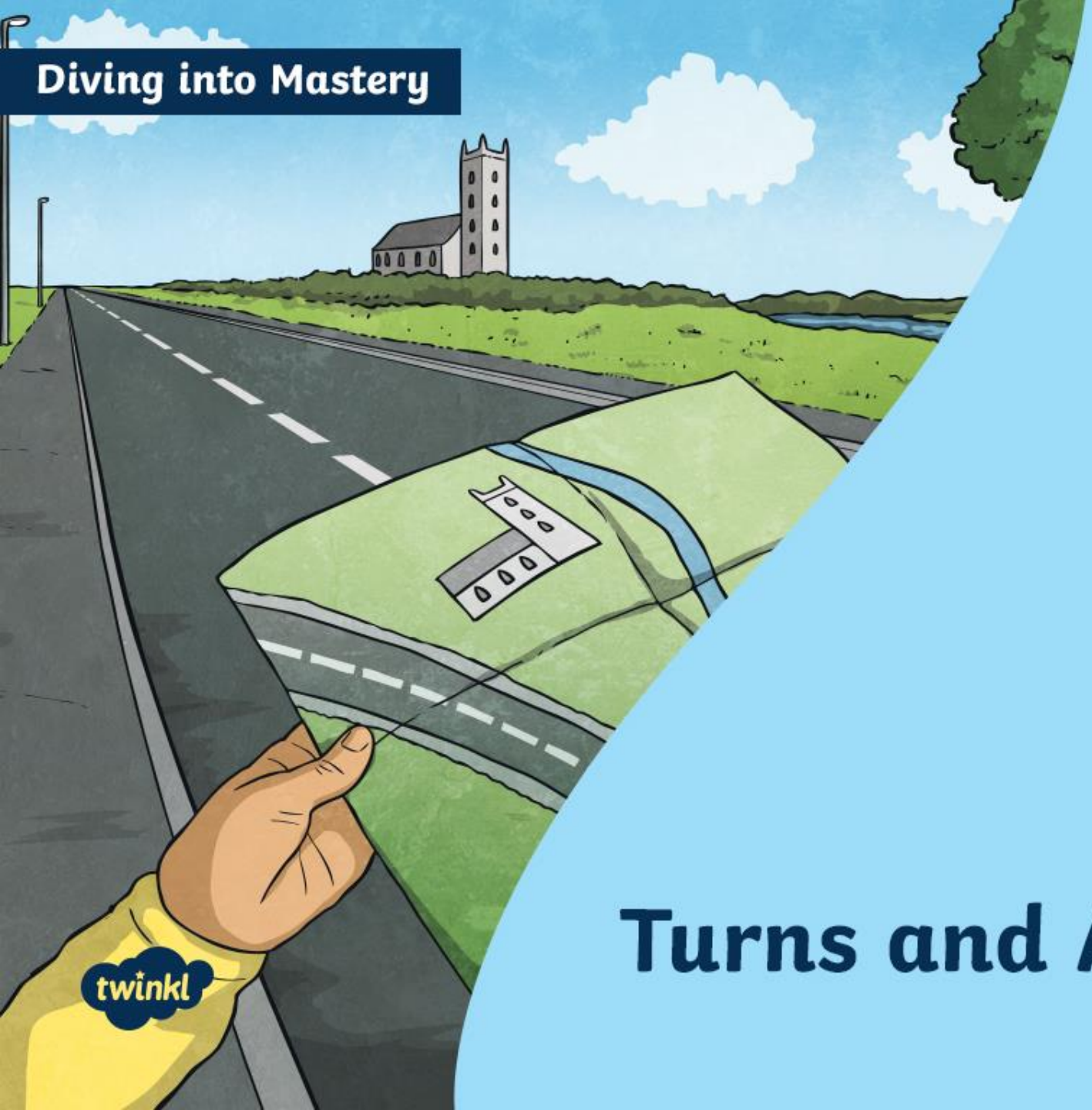
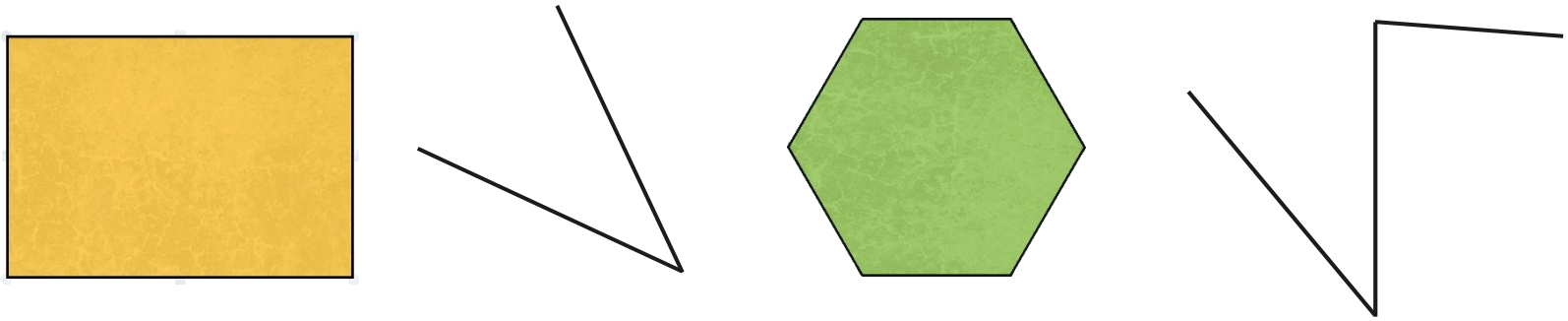
Diving into Mastery



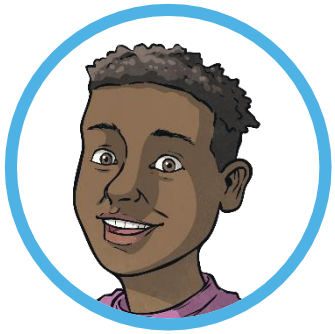
Turns and Angles

Part 1 – quarter turns and right angles

An angle is made when two straight lines meet.

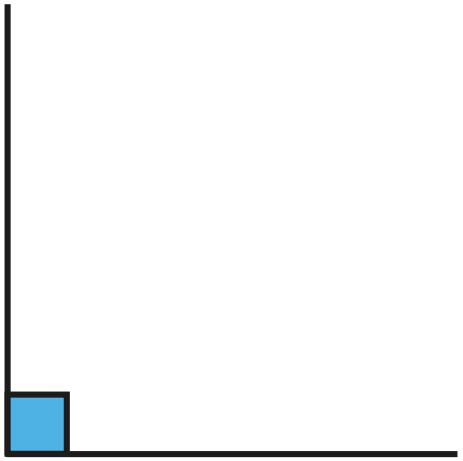


Each of these pictures shows one or more angles.



Turns and Angles **Diving**

A right angle is made when two lines meet like this:

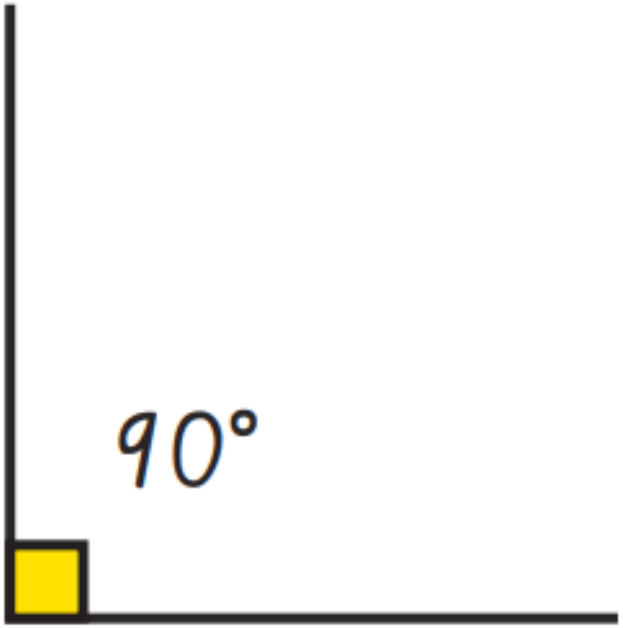


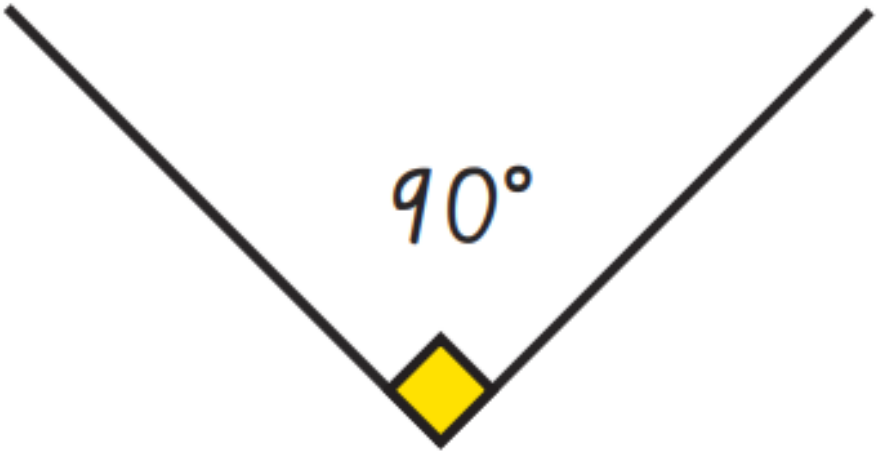
A quarter turn looks like this:

The size of a right angle is 90°.

When something makes a quarter turn, it turns 90°.

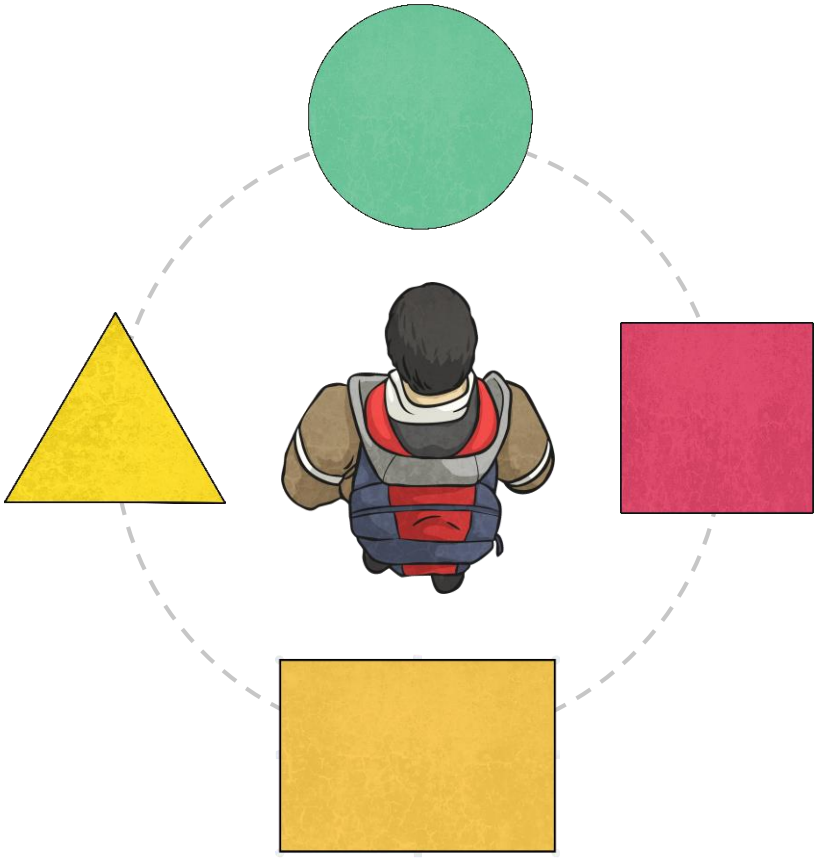
Here are some examples of right angles:





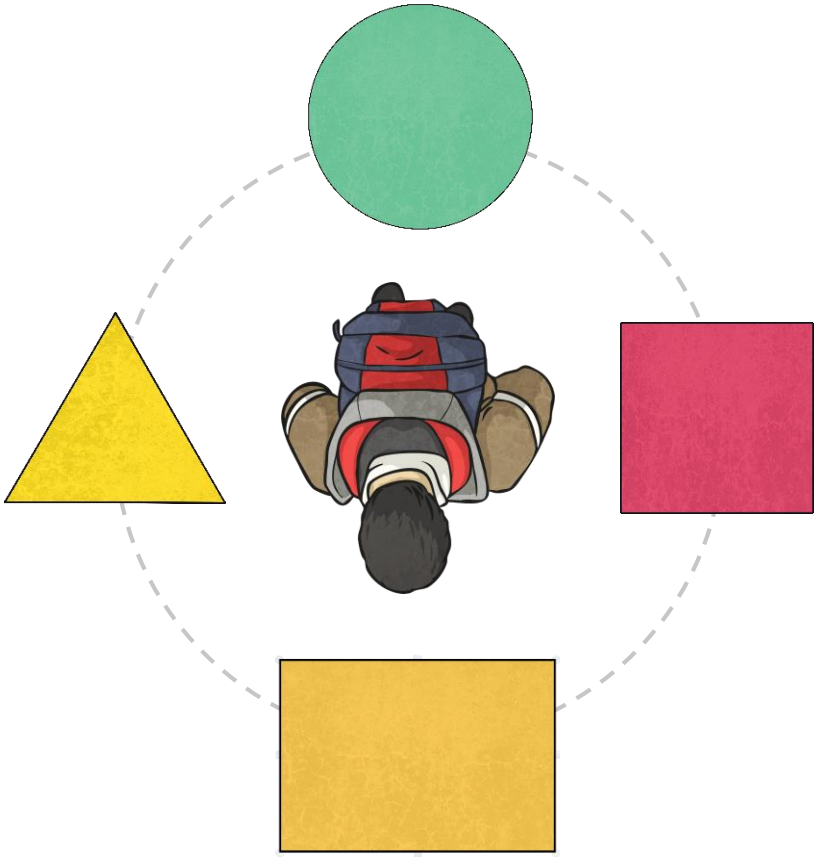
Turns and Angles **Deeper**

The child is facing the **circle**. If they make a quarter turn clockwise, which shape will they be facing?



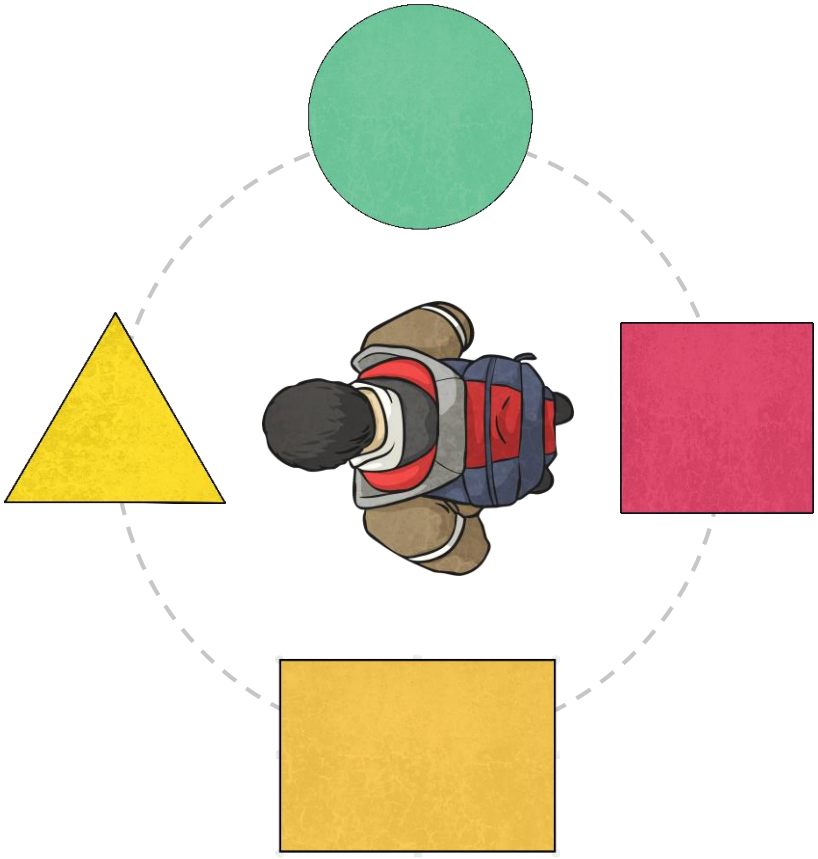
Turns and Angles **Deeper**

The child is facing the **rectangle**. If they make a three-quarter turn anticlockwise, which shape will they be facing?



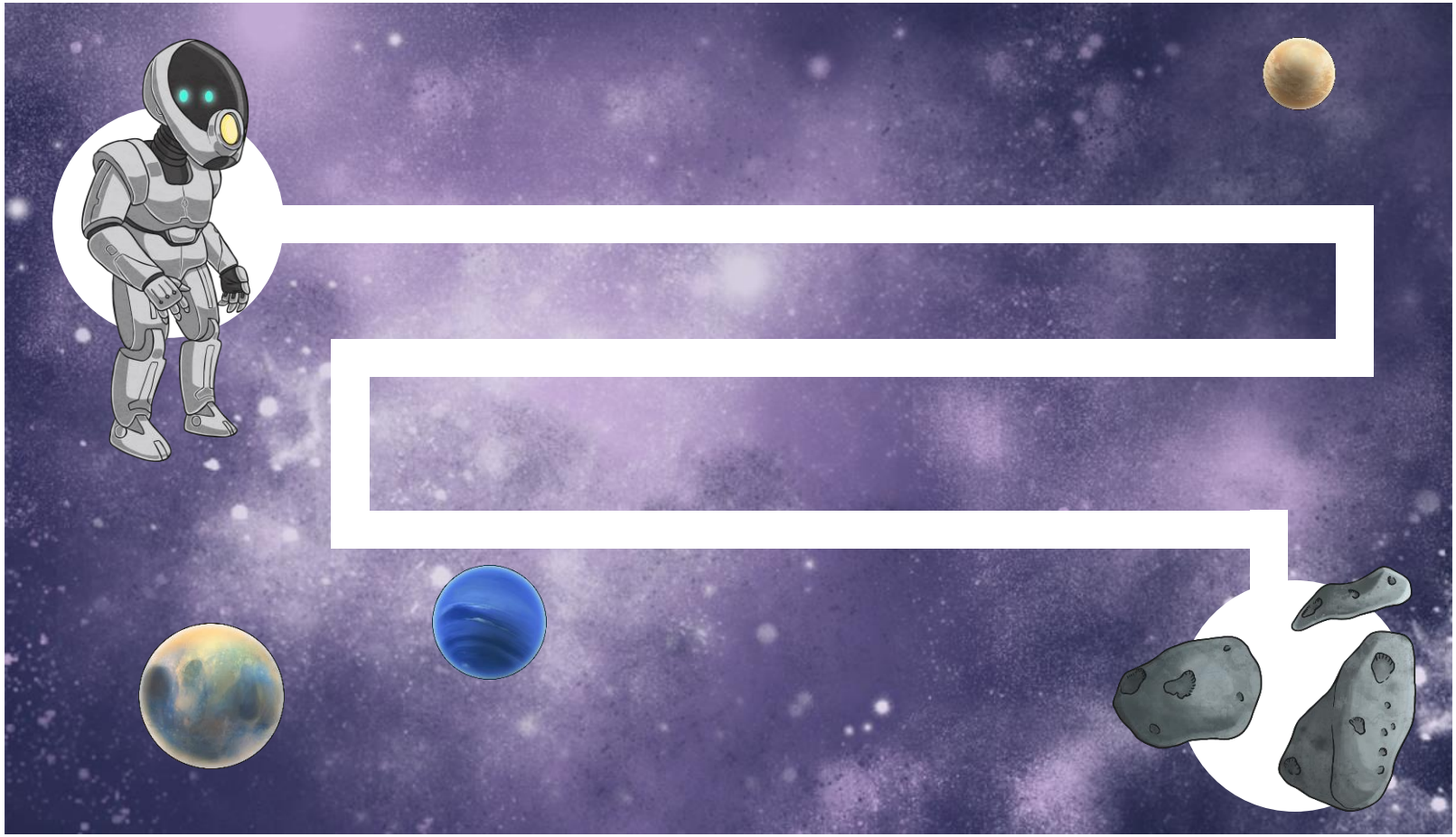
Turns and Angles **Deepest**

The child makes a quarter turn clockwise to face the circle.
Is there another way he could have turned to end up in the same position?



Turns and Angles **Deepest**

What turning instructions would you give to the robot to escape the maze?

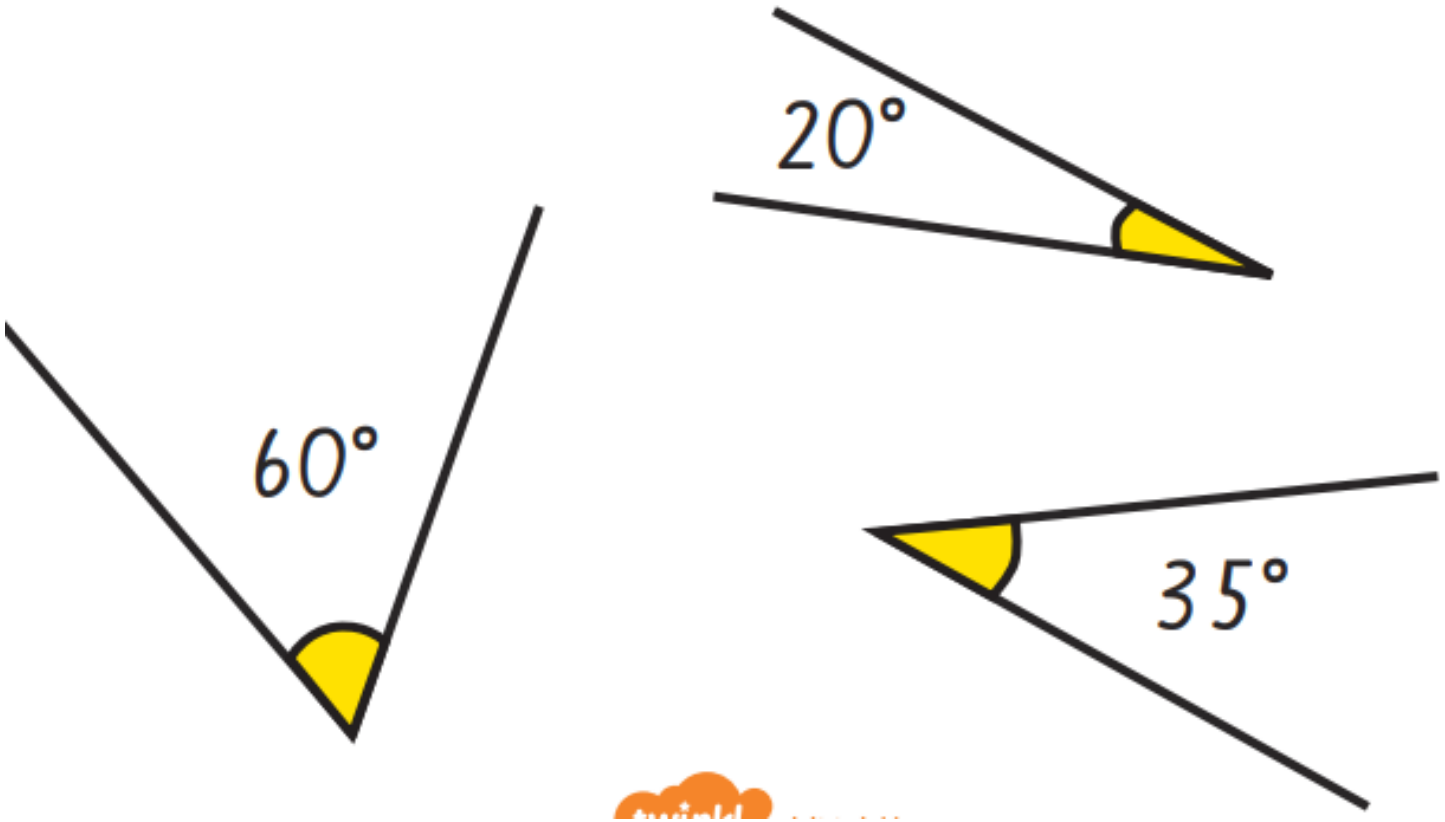


Part 2 – acute and obtuse angles

When something makes a turn that is smaller than a quarter turn, we call this an **acute** angle.

An acute angle is smaller than a right angle, so it is less than 90°.

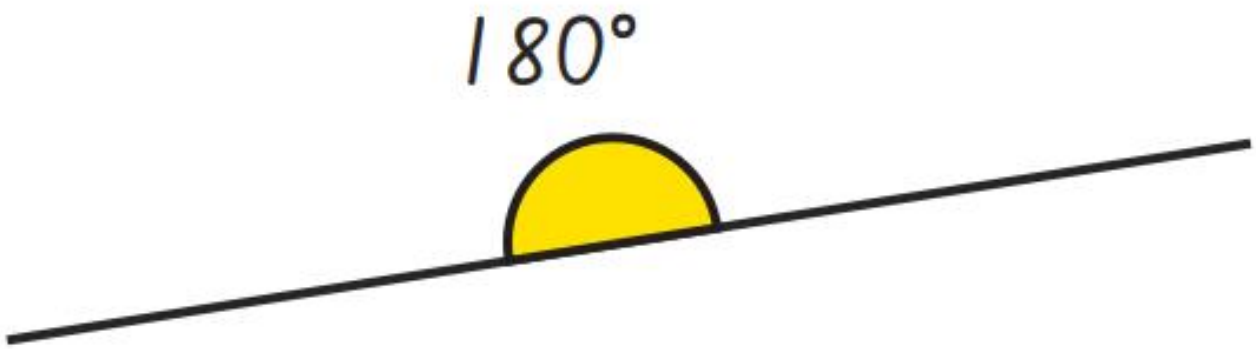
Here are some examples of acute angles:



When something makes two quarter turns, it has turned a straight line.

A straight line is two right angles, so it must be 180°.

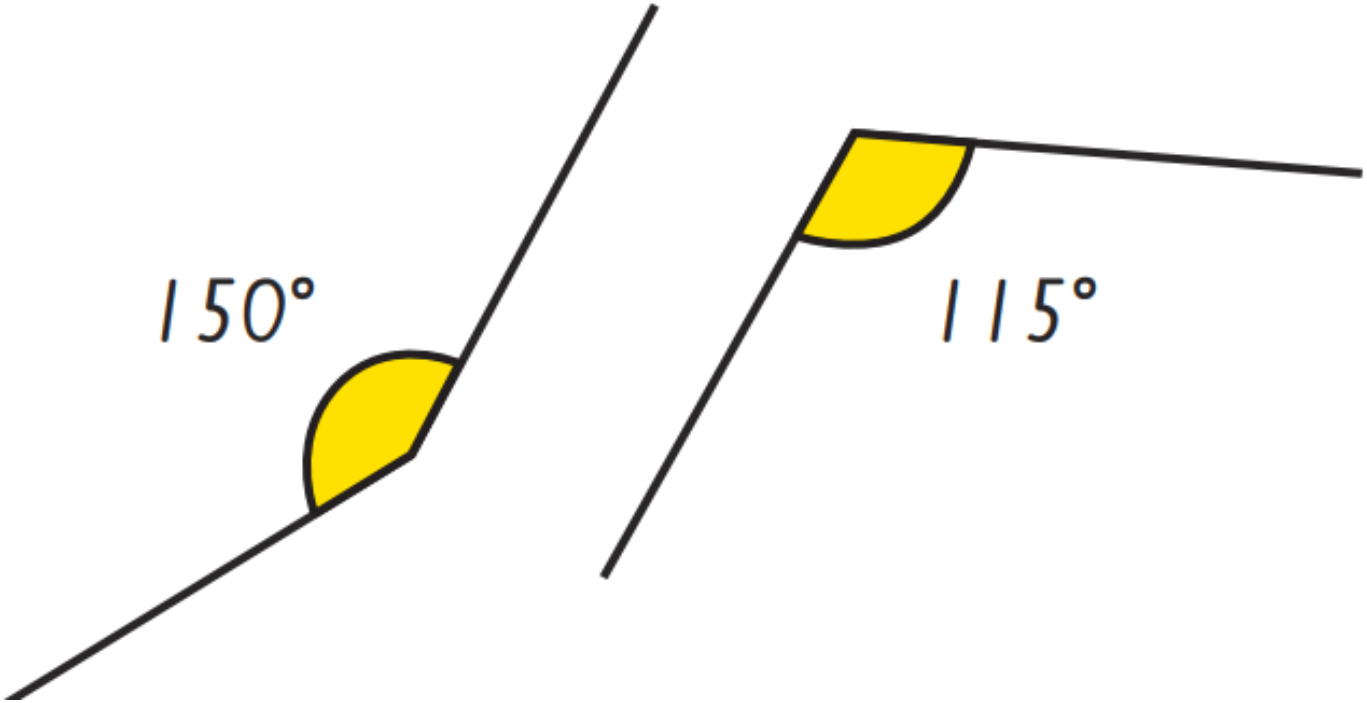
Here is an example of a straight angle:



When something makes a turn that is bigger than a quarter turn, but smaller than a straight line, we call this an **obtuse** angle.

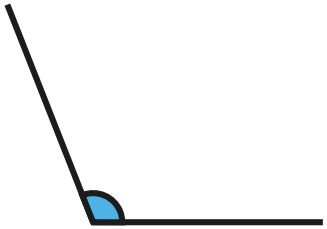
An obtuse angle is bigger than a right angle, but smaller than a straight line, so it is more than 90° and less than 180 °.

Here are some examples of obtuse angles:

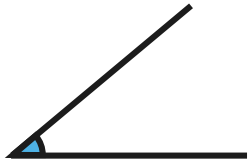


Compare Angles **Diving**

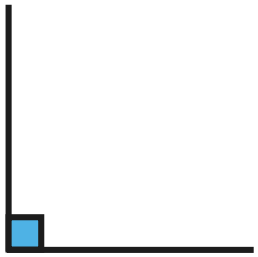
Match these angles with their descriptions.



A right angle is 90 degrees, or a quarter turn.



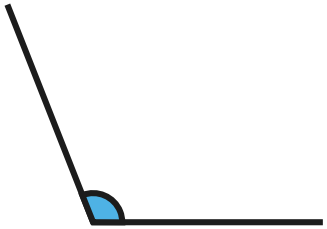
An angle bigger than a right angle, but not a straight line or half turn (90-179 degrees) is called an **obtuse** angle.

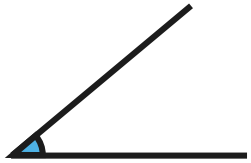


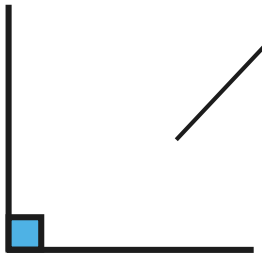
An angle smaller than a right angle (less than 90 degrees) is called an **acute** angle.

Compare Angles **Diving**

Click on these angles to match with their descriptions.







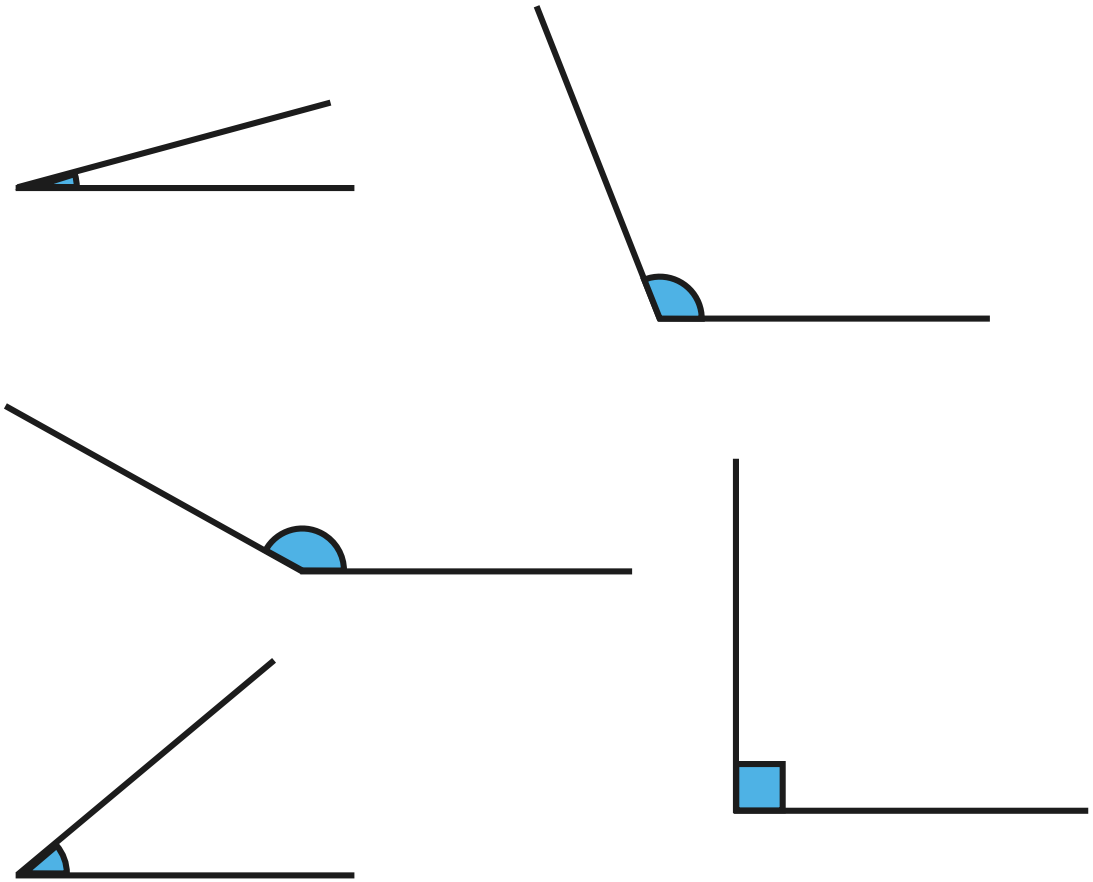
A right angle is 90 degrees, or a quarter turn.

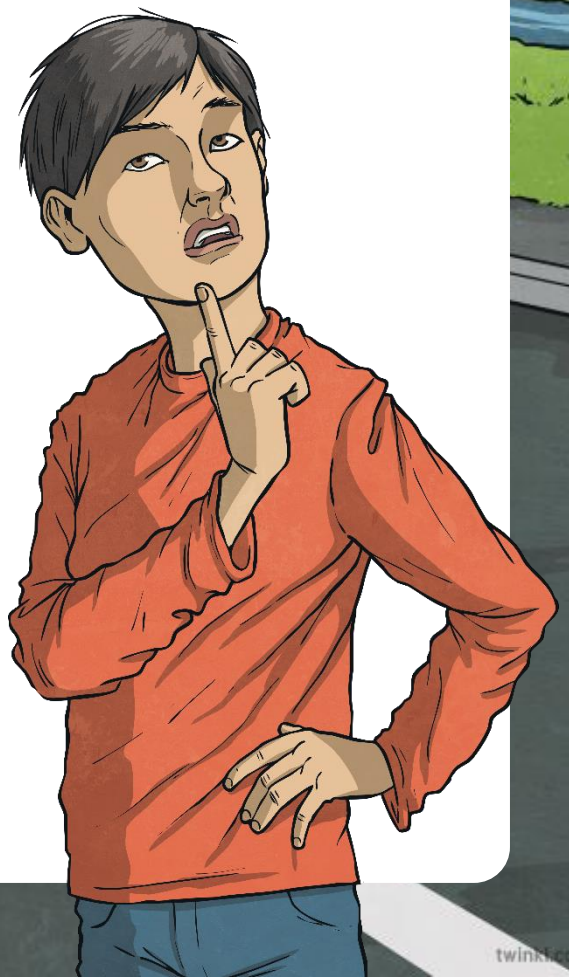
An angle bigger than a right angle, but not a straight line or half turn (90-179 degrees) is called an **obtuse** angle.

An angle smaller than a right angle (less than 90 degrees) is called an **acute** angle.

Compare Angles **Diving**

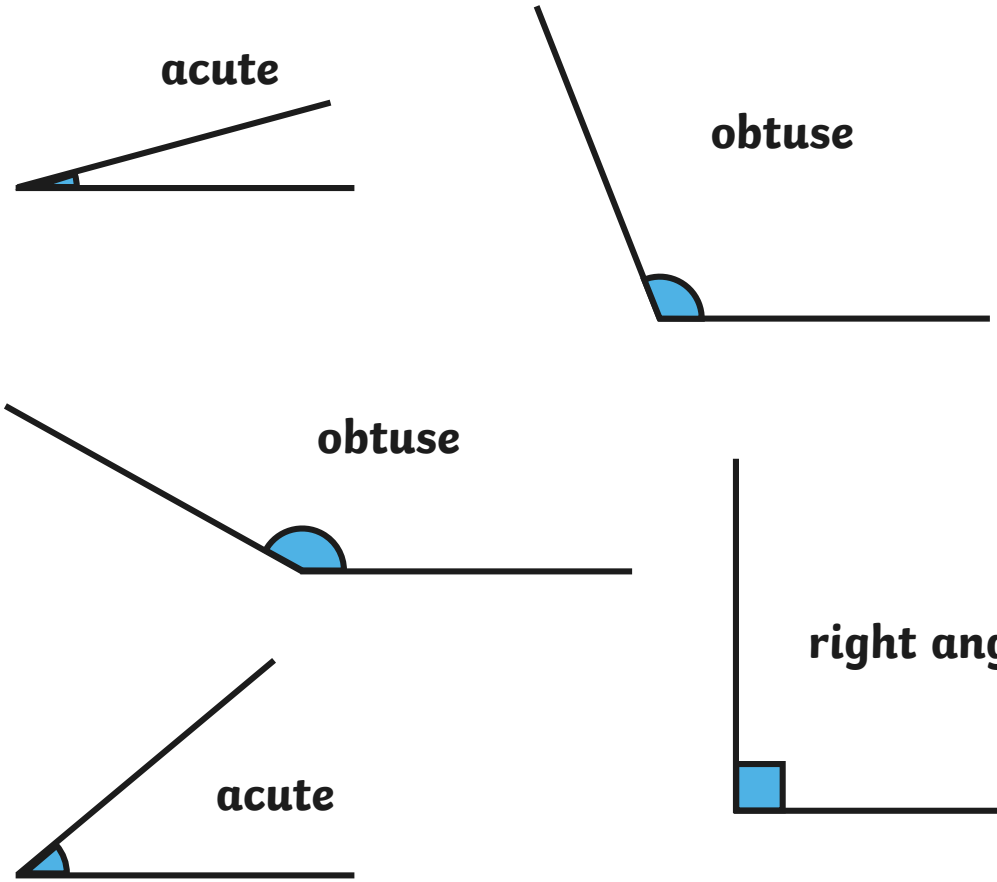
Can you tell if these angles are acute, obtuse or right angles?

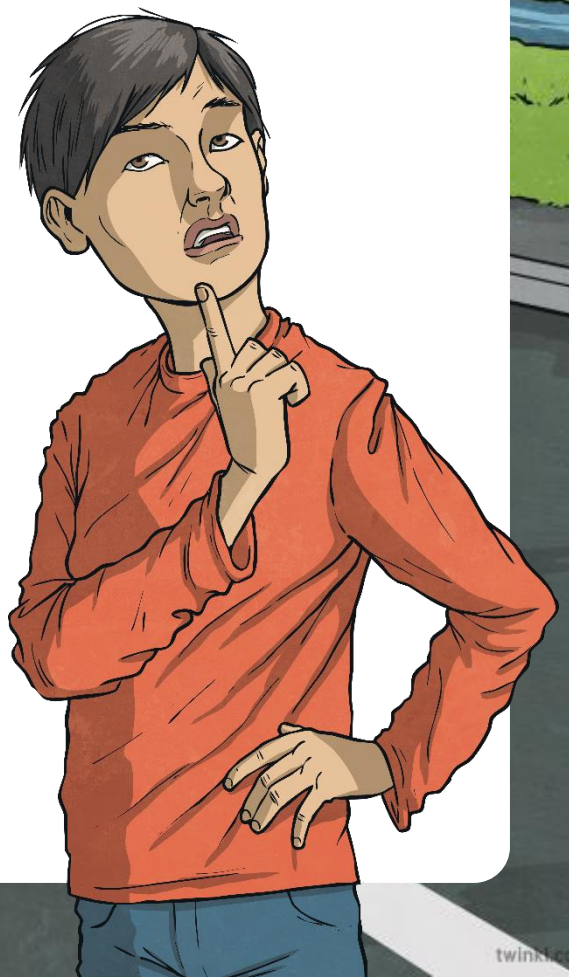




Compare Angles **Diving**

Can you tell if these angles are acute, obtuse or right angles?



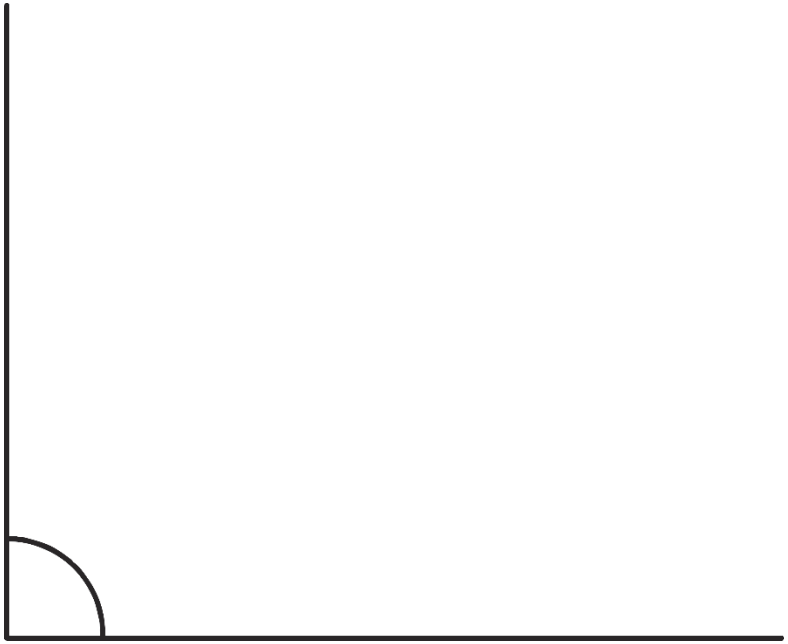


What kind of angle is this?

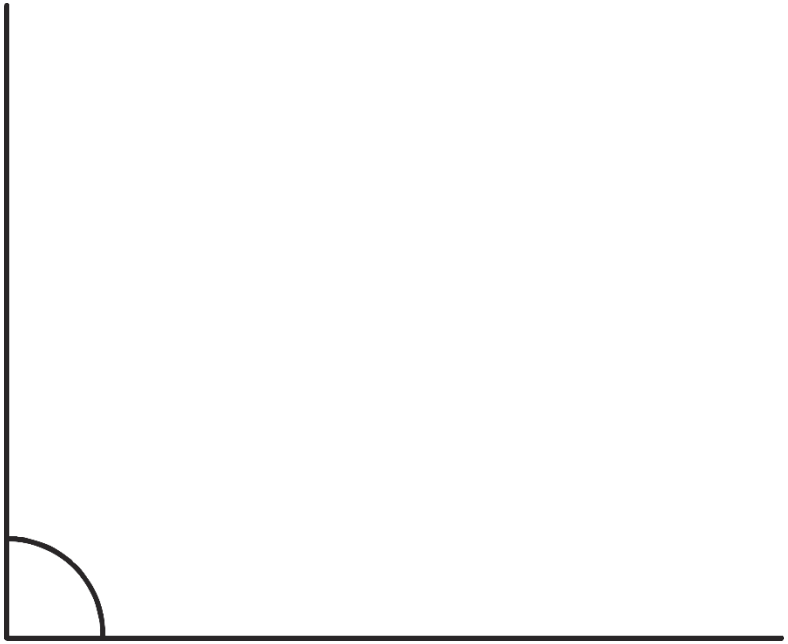
What kind of angle is this?

Acute

What kind of angle is this?

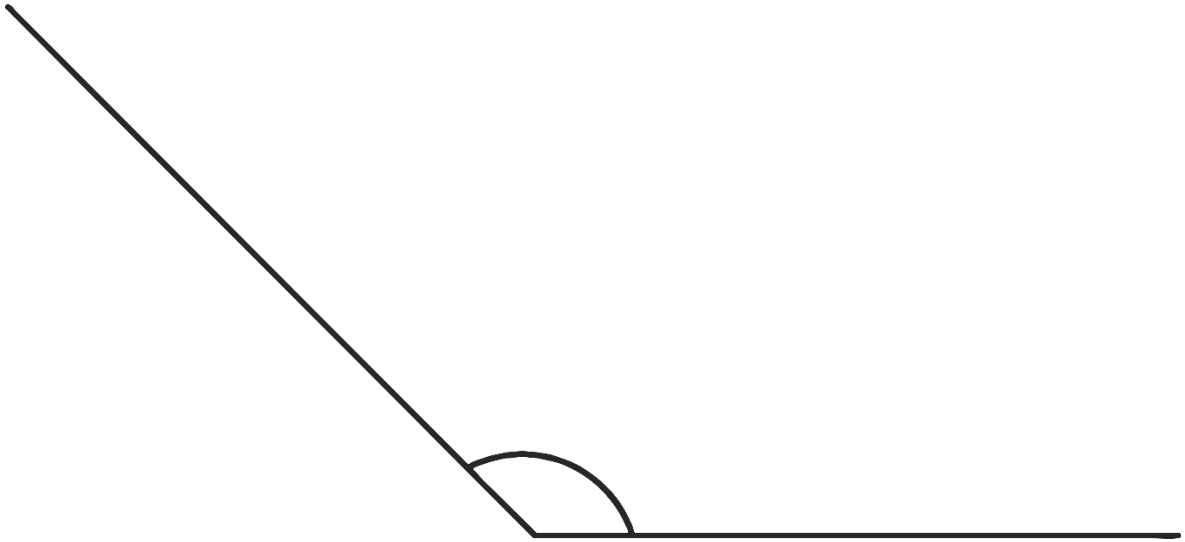


What kind of angle is this?

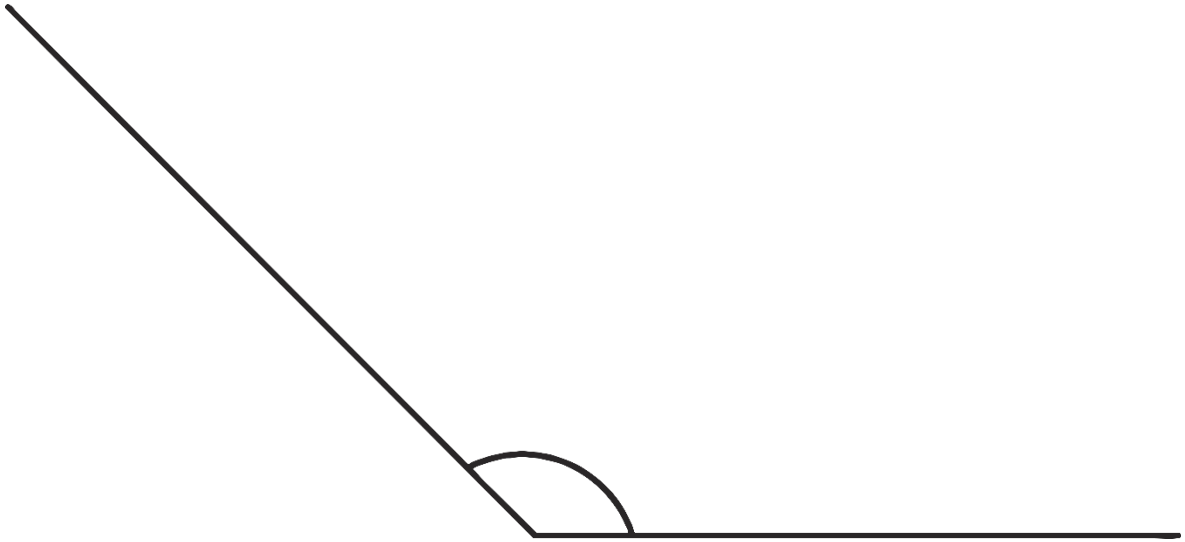


Right

What kind of angle is this?



What kind of angle is this?



Obtuse

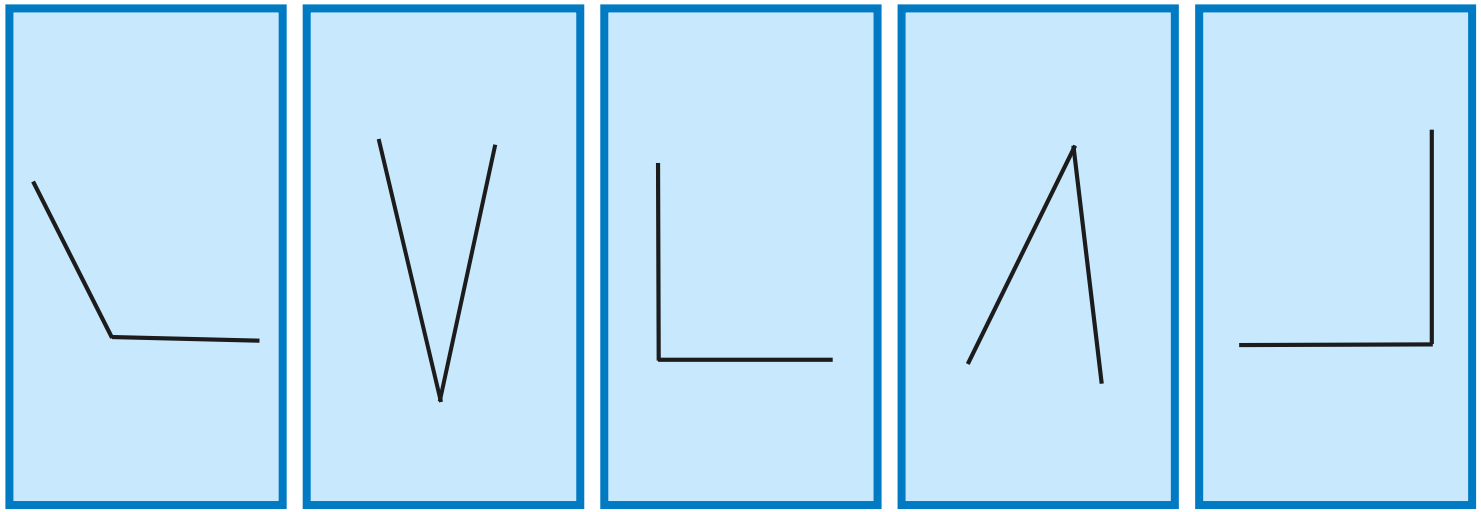
What kind of angle is this?

What kind of angle is this?

Straight

Identify Angles **Diving**

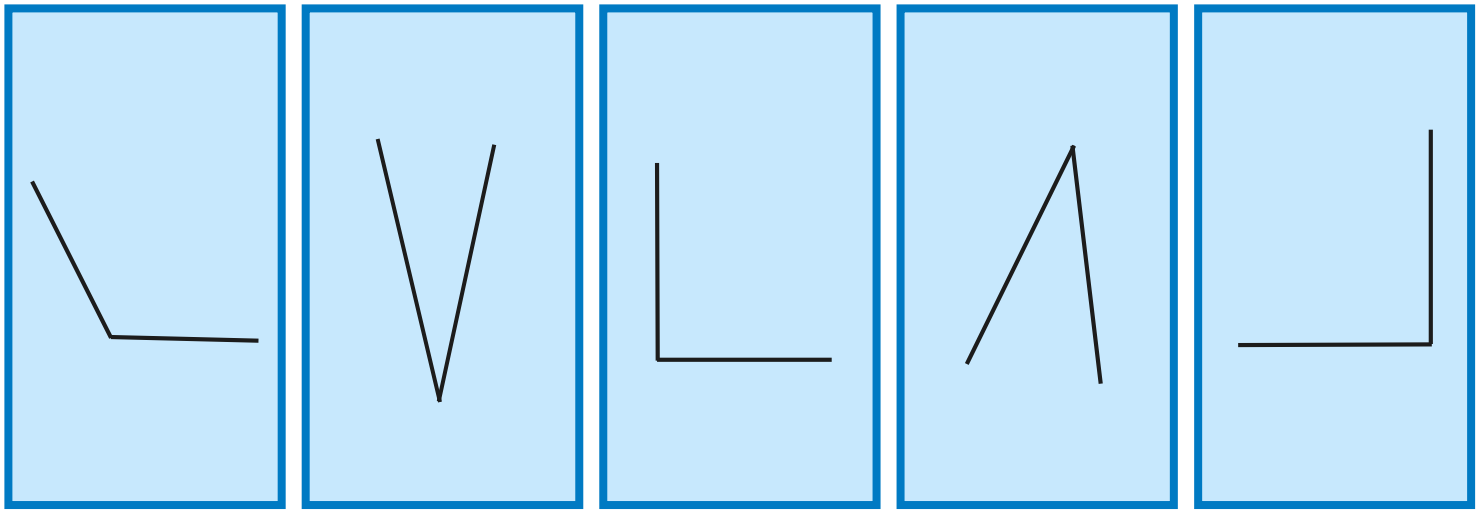
Which angles are acute?



What other types of angle can you identify above?

Identify Angles **Diving**

Which angles are acute?

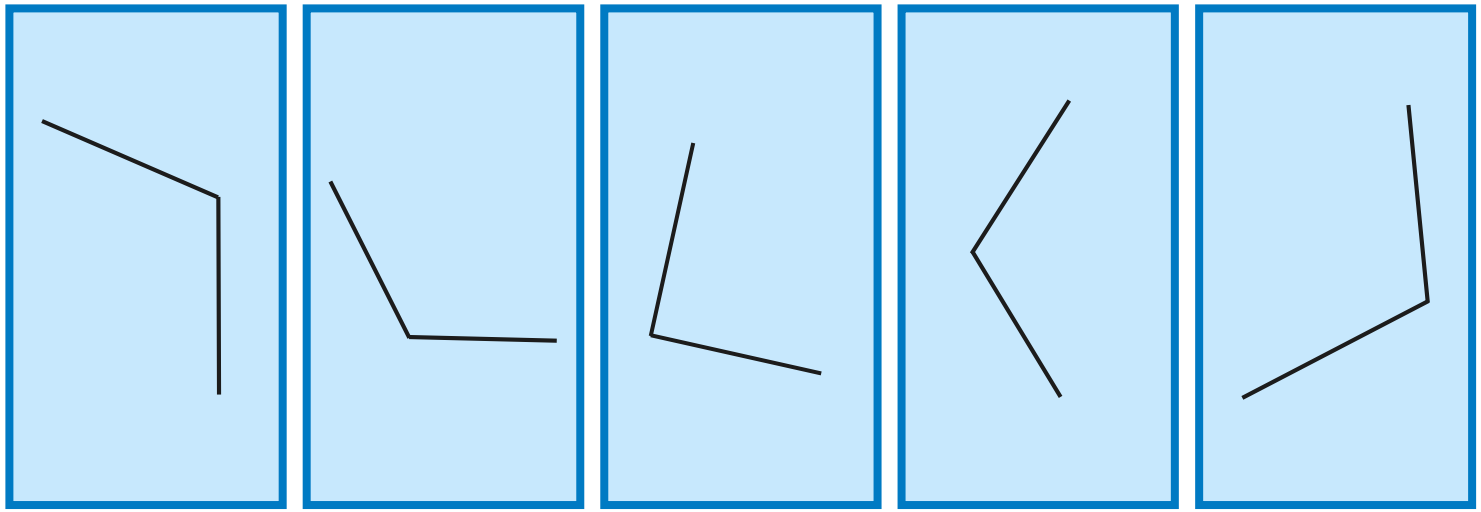


What other types of angle can you identify above?

Two acute angles, one obtuse angle and two right angles

Identify Angles **Deeper**

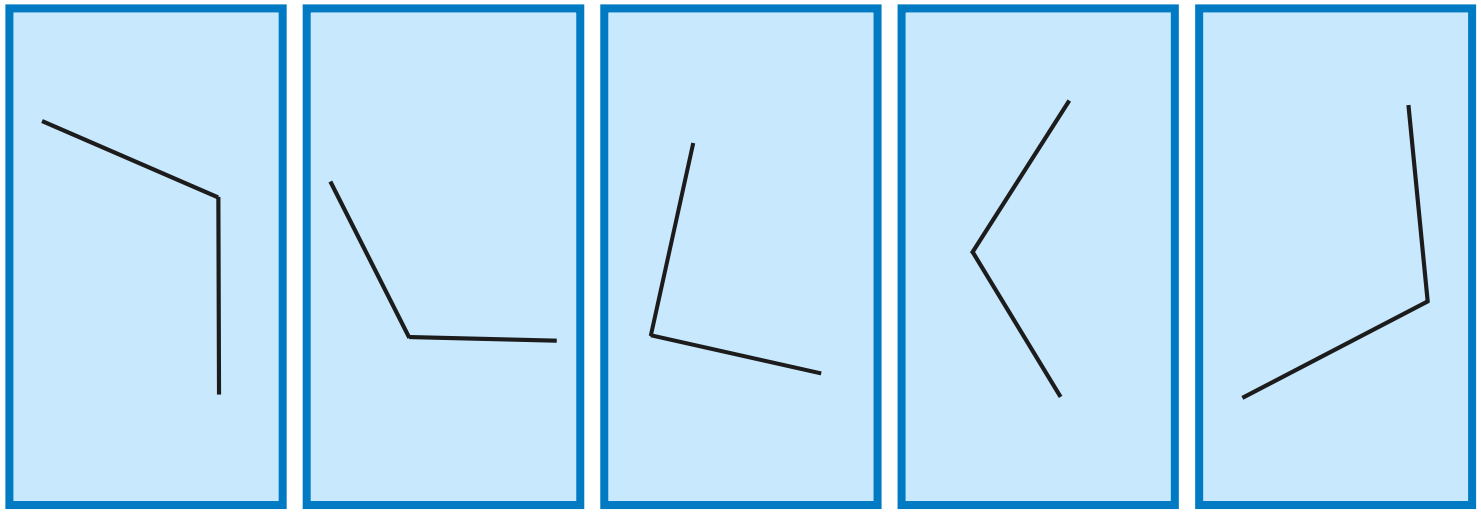
Which angle is the odd one out?



Why?

Identify Angles **Deeper**

Which angle is the odd one out?

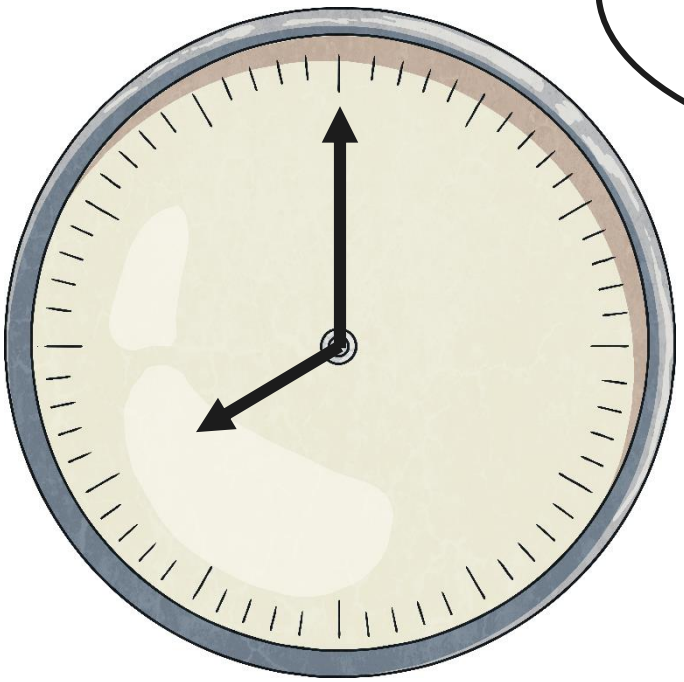


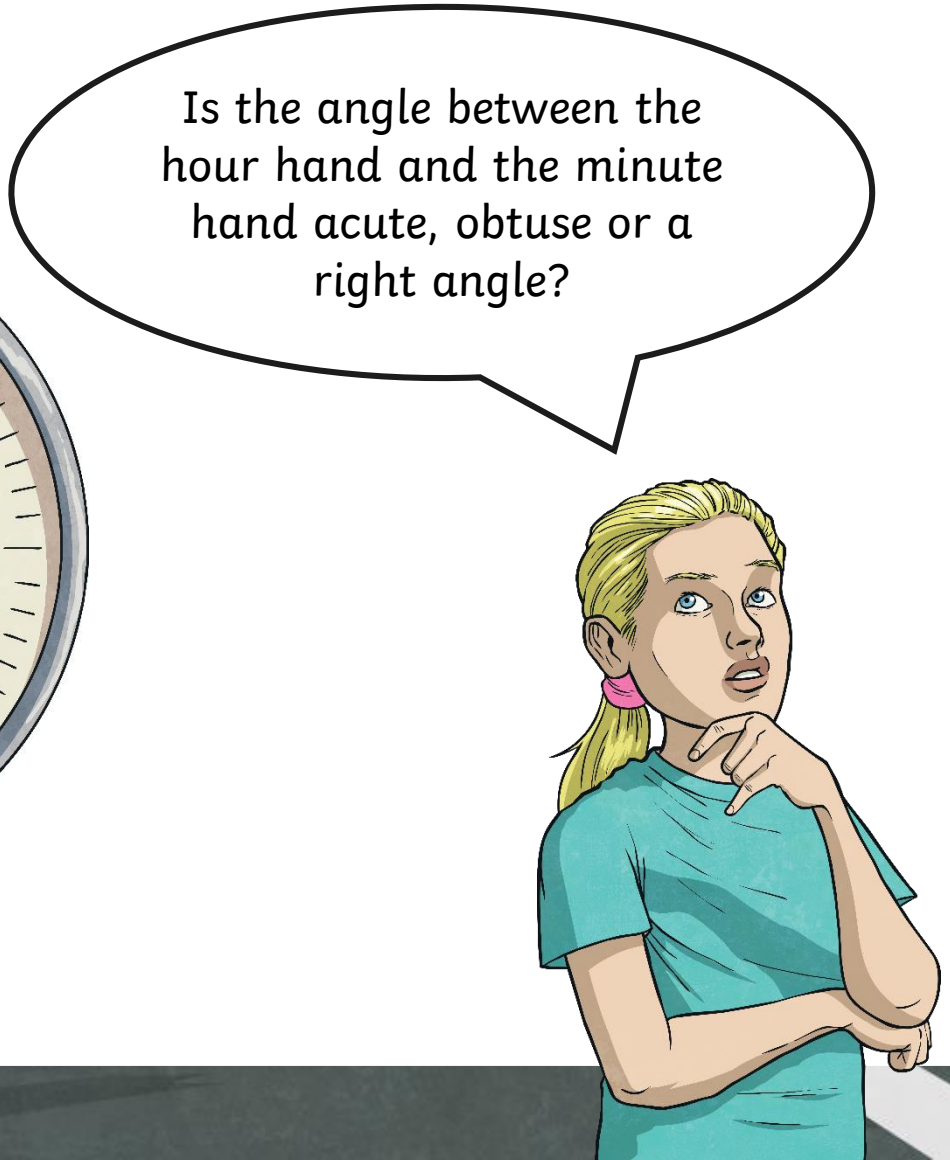
Why?

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

Compare Angles **Deeper**

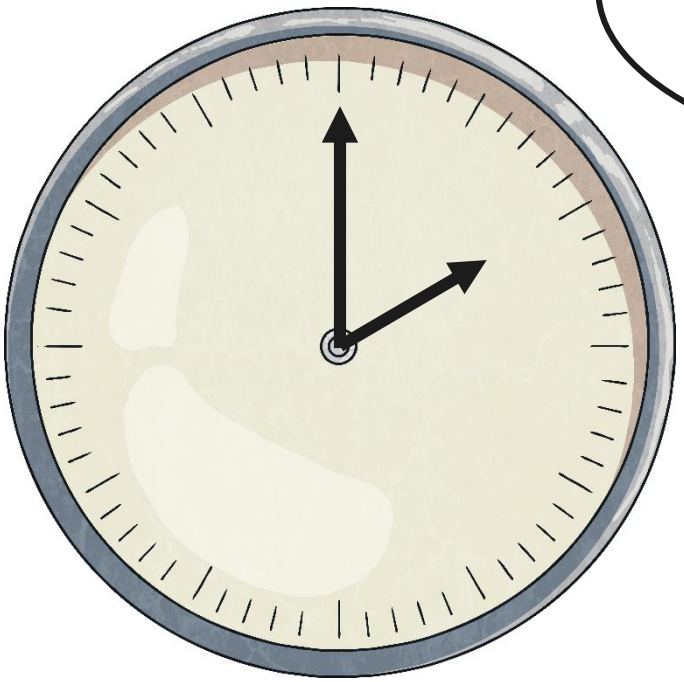
Look at this clock face.

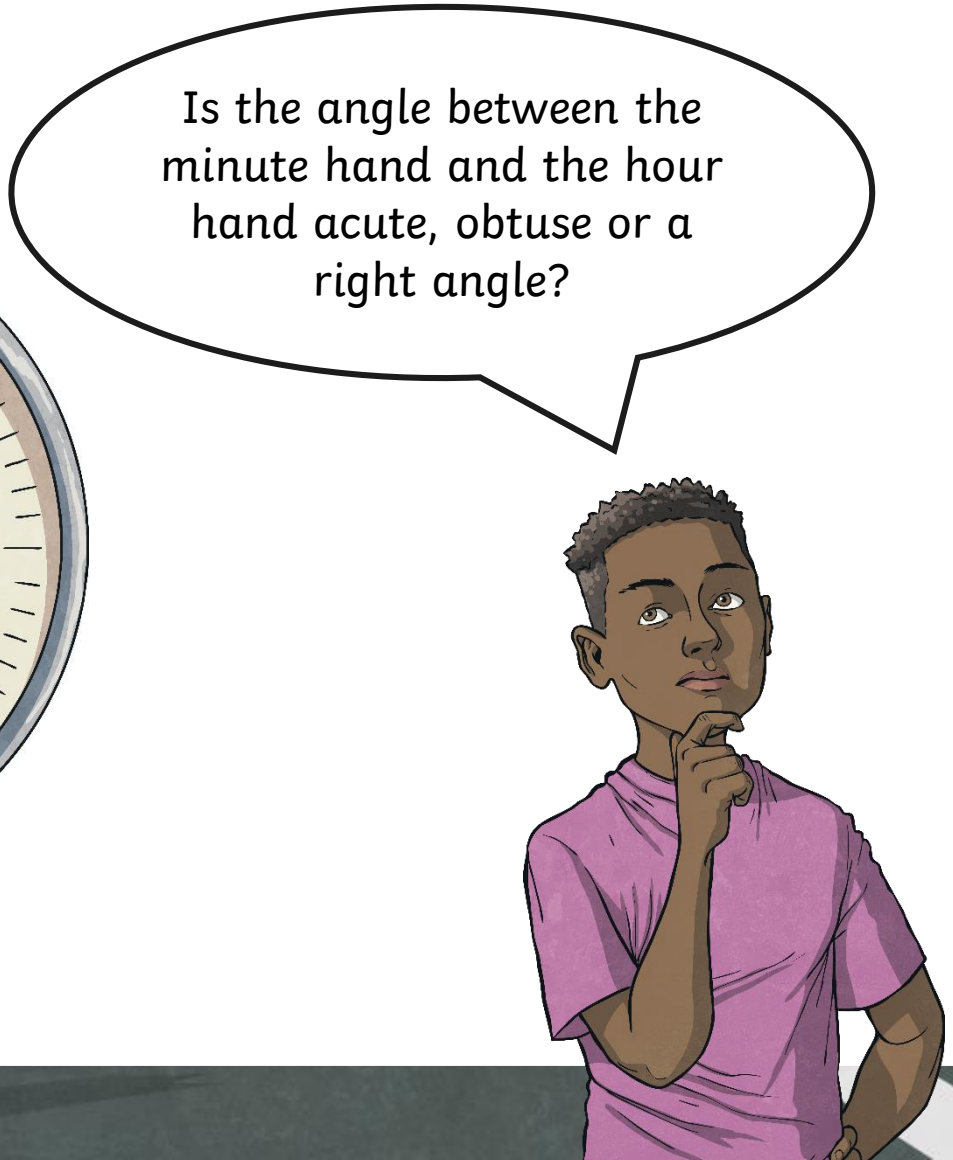




Compare Angles **Deeper**

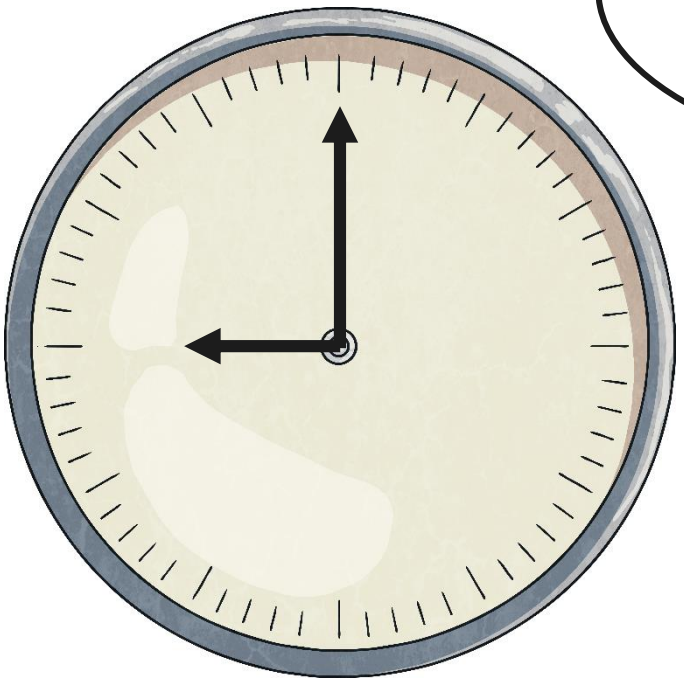
Look at this clock face.

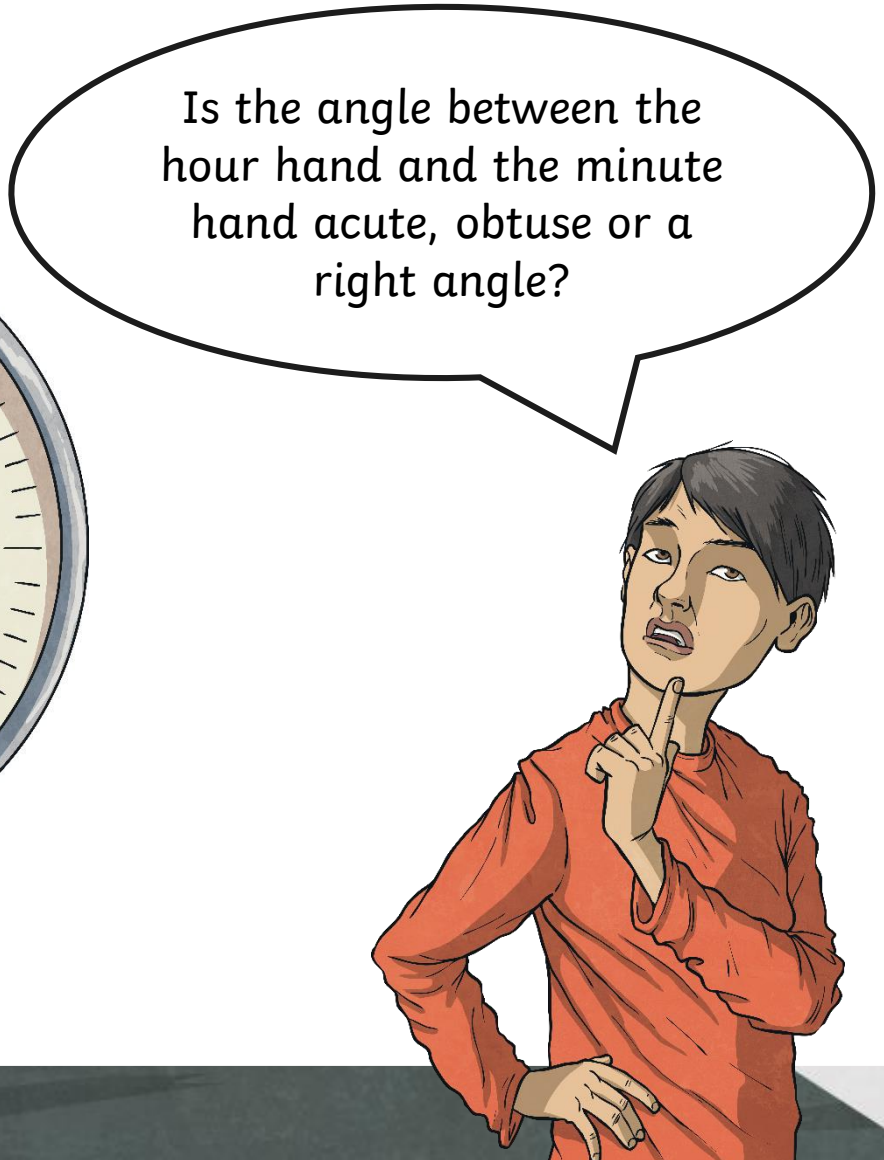




Compare Angles **Deeper**

Look at this clock face.



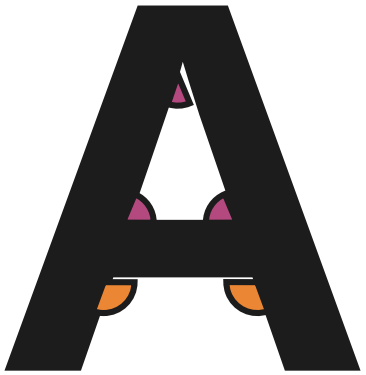


Compare Angles **Deeper**

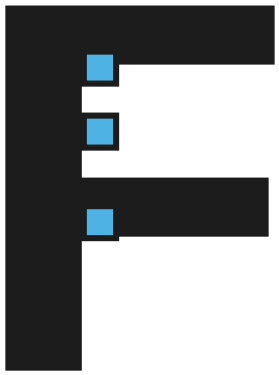
Look at these letters. Can you see any acute, obtuse or right angles where the lines meet?

Compare Angles **Deeper**

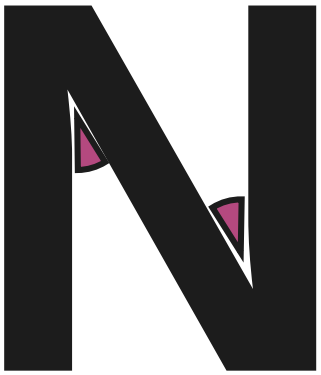
Look at these letters. Can you see any acute, obtuse or right angles where the lines meet?



obtuse and acute angles



right angles



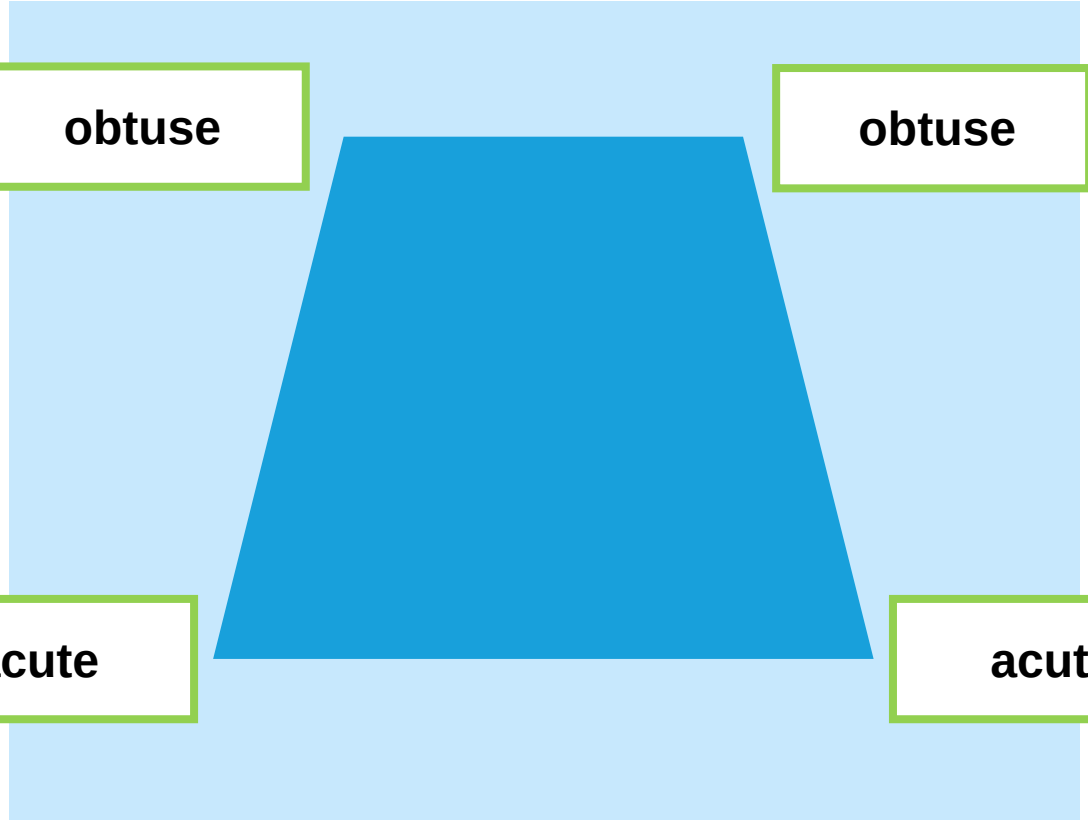
acute angles

Identify Angles **Diving**

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

Identify Angles **Diving**

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

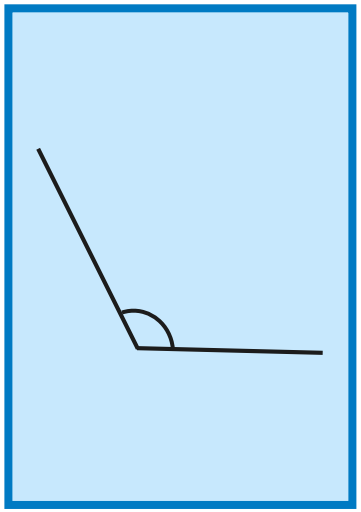


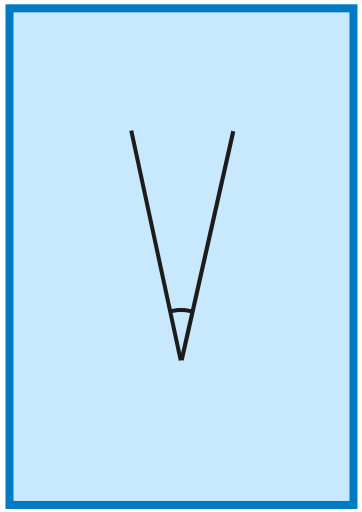
Part 3 – comparing angles

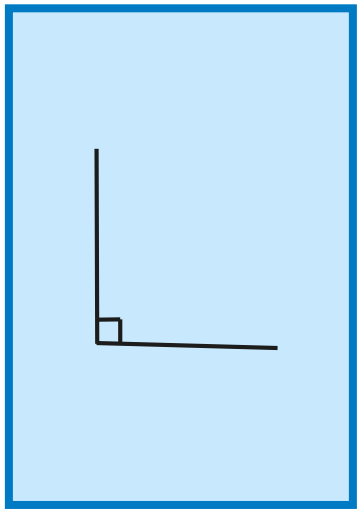
Compare and Order Angles

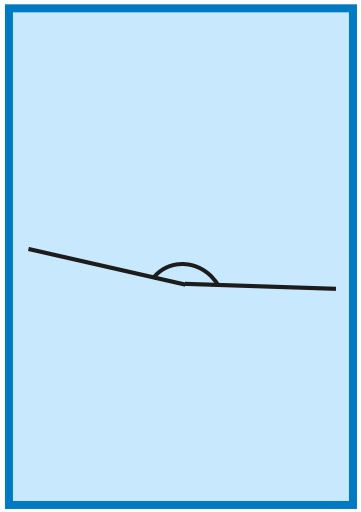
Diving

Order these angles from largest to smallest.





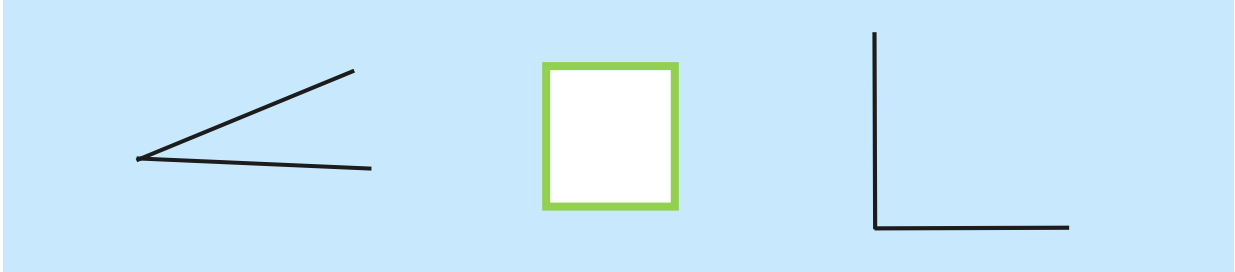


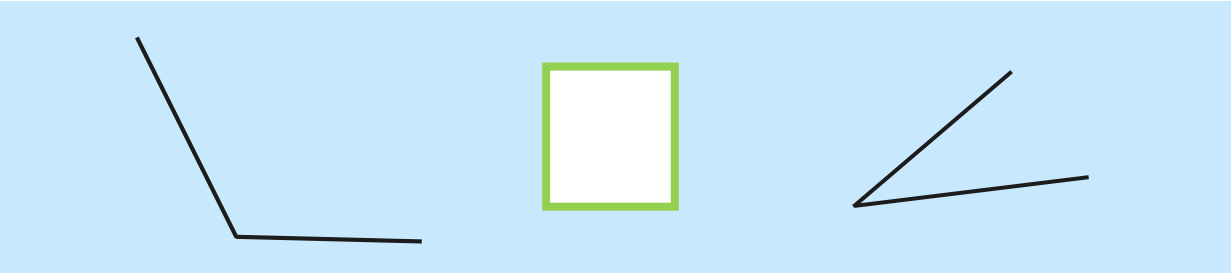


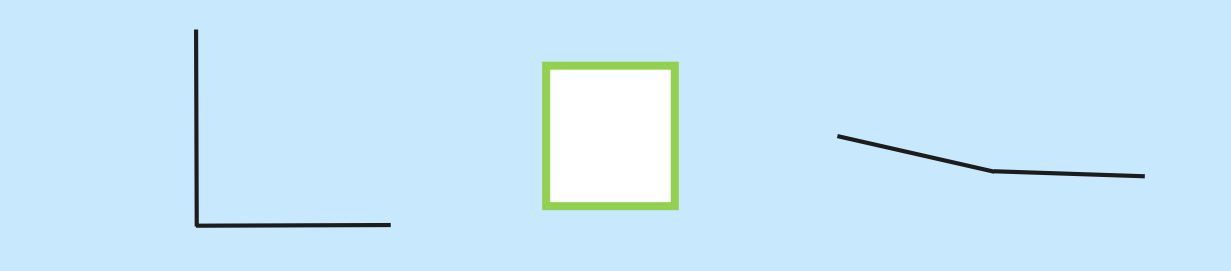
Compare and Order Angles

Diving

Use the greater than and less than symbols to compare these angles:



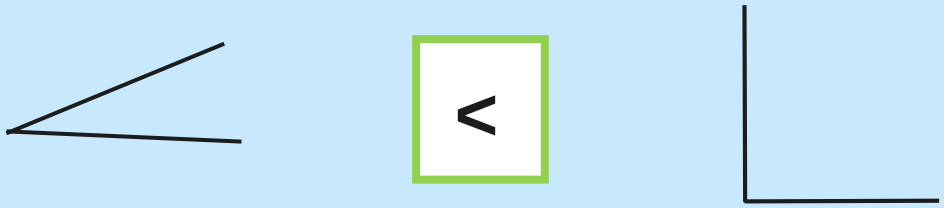




Compare and Order Angles

Diving

Use the greater than and less than symbols to compare these angles:



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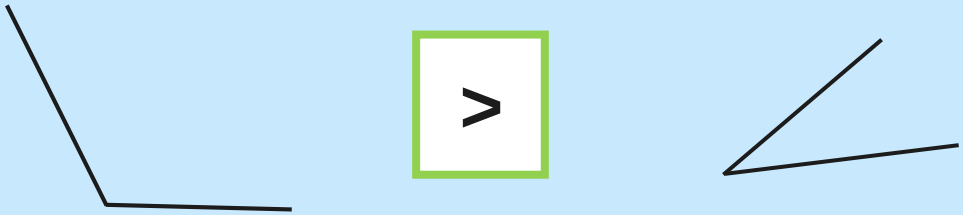

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Compare and Order Angles | Deeper

Which is the largest angle in this shape?

What makes it harder to tell?