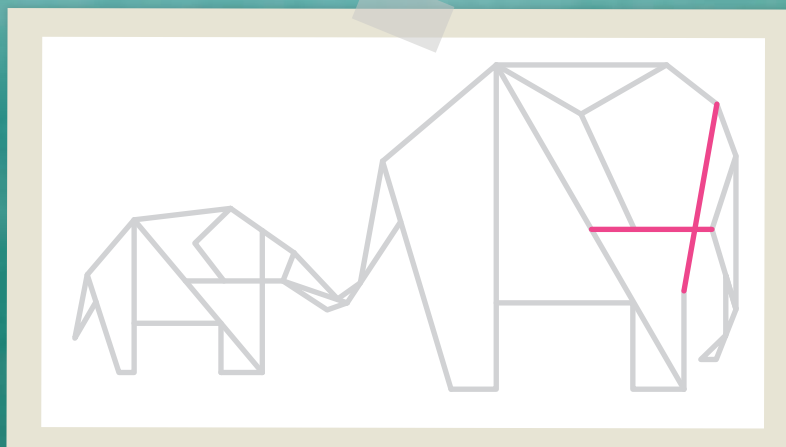


3 Investigating Angles when Two Lines Intersect

Anchor Task

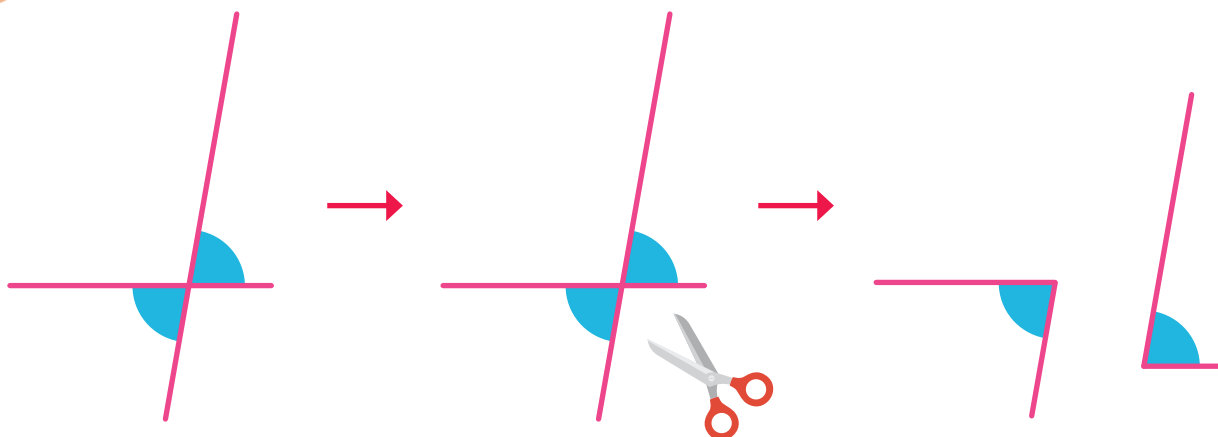


Think of ways to find angles that are equal.

Our Friends' Ideas



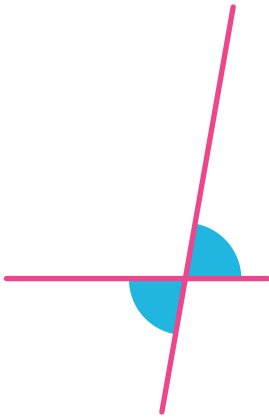
thinks these two angles are equal.



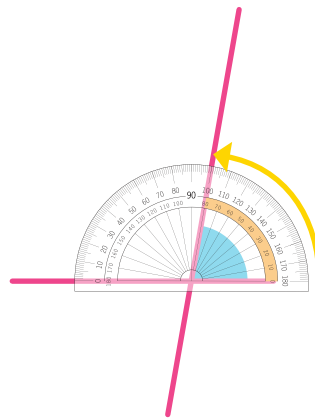
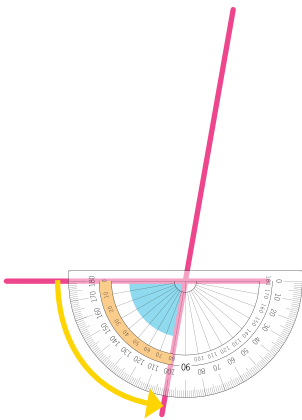
He compares the angles by cutting them out.
If these two angles are the same size, they should overlap each other completely.



also thinks these two angles are equal.



She compares the angles by measuring their sizes using a protractor.



The angles are equal.

Language of Mathematics



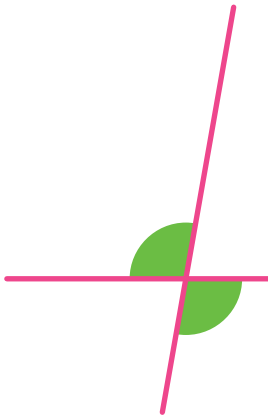
These angles are called **vertically opposite angles**.

They are formed when two lines **intersect**.

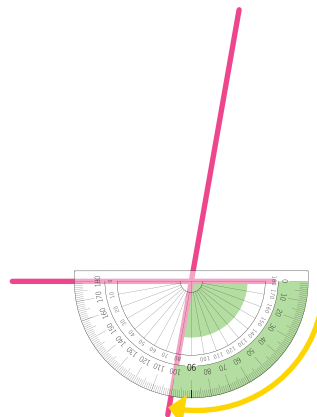
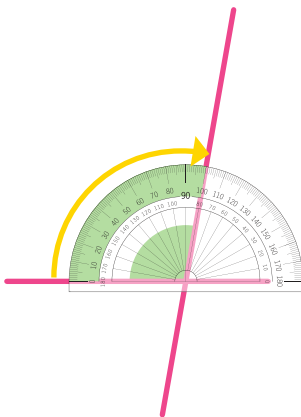
To intersect means the lines cut each other.



thinks that these two angles are equal.



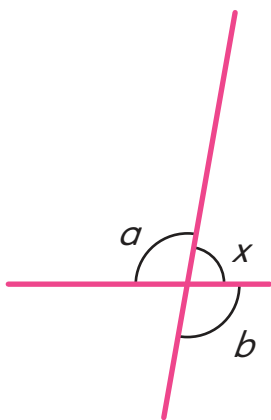
He compares the angles by measuring their sizes using a protractor.



Vertically opposite angles are equal.



uses reasoning to show that vertically opposite angles are equal.



Angles on a straight line always add up to 180° .



$$\angle a + \angle x = 180^\circ$$

$$\angle b + \angle x = 180^\circ$$

$$\text{So, } \angle a = \angle b.$$

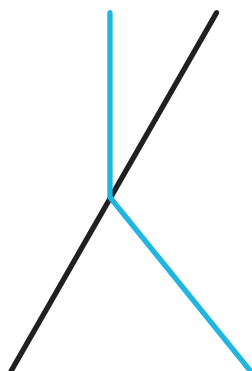


180°

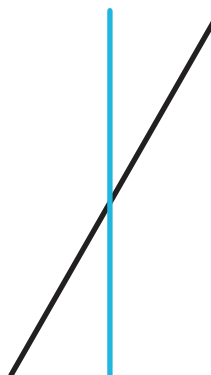
Maths Journal



These are two situations when straight lines meet.



1



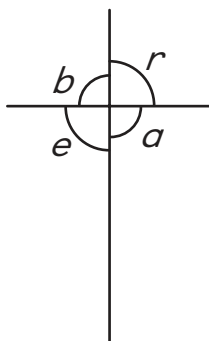
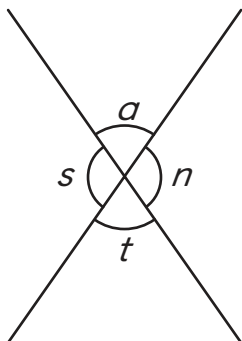
2

Compare the two situations.
How are they different?
How are they alike?

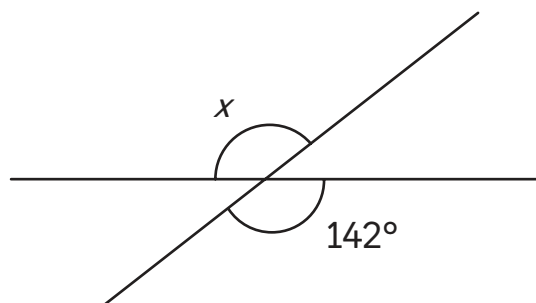
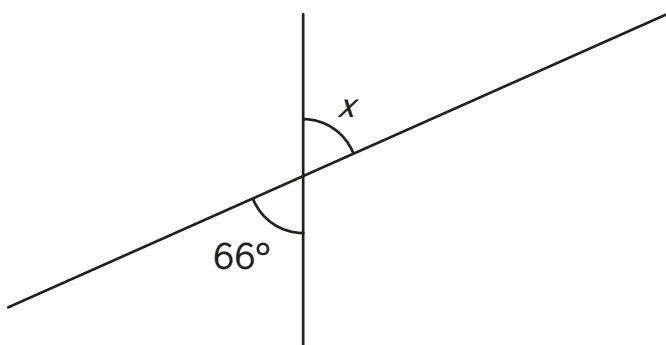
Guided Practice



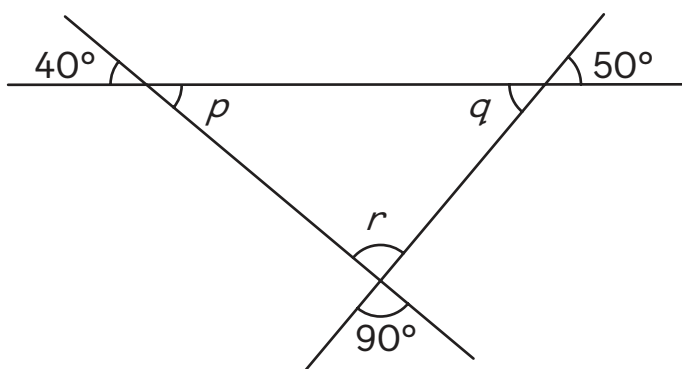
- 1 Which angle is vertically opposite to angle a ?



- 2 Write down the value of angle x in each diagram.



- 3 Write down the size of angles p , q and r .



Complete Workbook Practice 3 • Pages 43 to 44