

Pairs on track

Discover the angles that are made when straight lines cross parallel lines, with Mathomat.

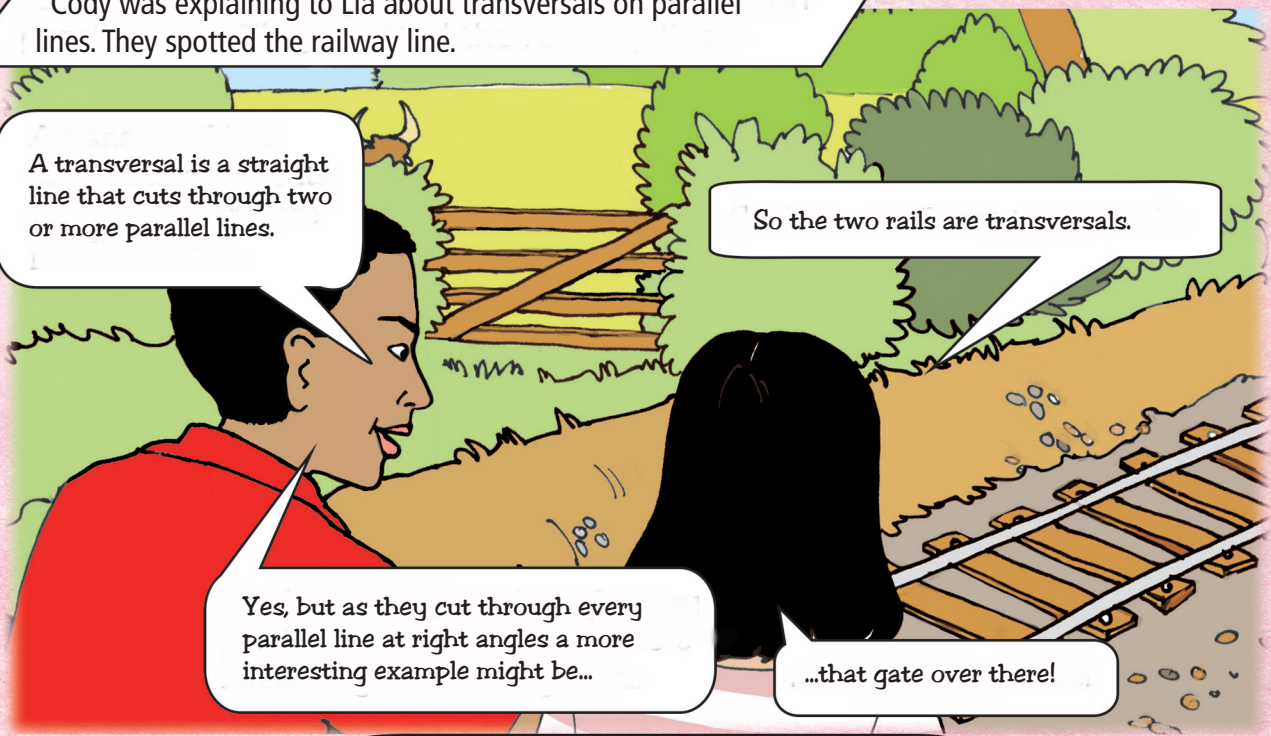
Cody was explaining to Lia about transversals on parallel lines. They spotted the railway line.

A transversal is a straight line that cuts through two or more parallel lines.

So the two rails are transversals.

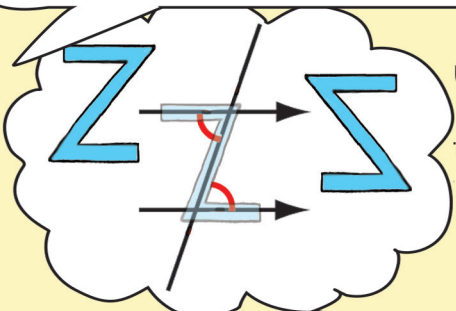
Yes, but as they cut through every parallel line at right angles a more interesting example might be...

...that gate over there!



Cody explains.

The gate is a good example because we can investigate angles made by a transversal that is not at 90° to the parallel lines.

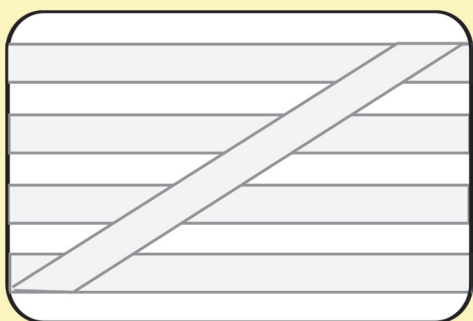


The 'Z' shape helps me visualise a set of alternate interior angles.

The 'Z' is a useful shape to remember when exploring alternate angles made by transversals. It would also work as a reflection of itself.

Draw in pen over the transversal using Mathomat on the diagram of the gate below, illustrating the 'Z' shape.

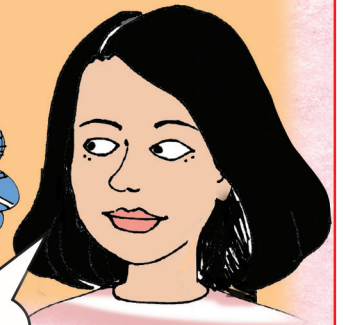
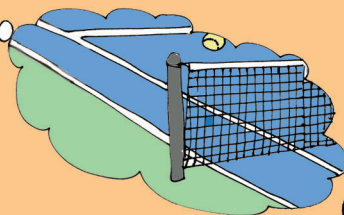
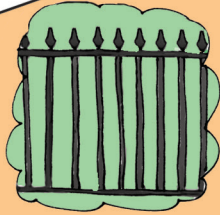
The 'Z' shape helps identify exterior and interior alternate angles. Estimate the size, or magnitude, of a pair of alternate angles you have made, then measure them to be sure.



Complete the sentence:
A pair of angles on opposite sides of the transversal are.....



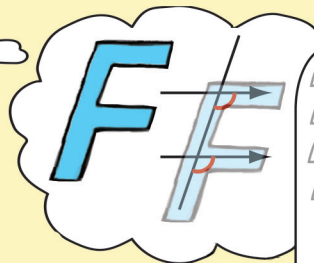
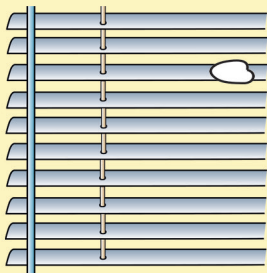
Parallel lines are all around us: key boards, tennis courts, railings...



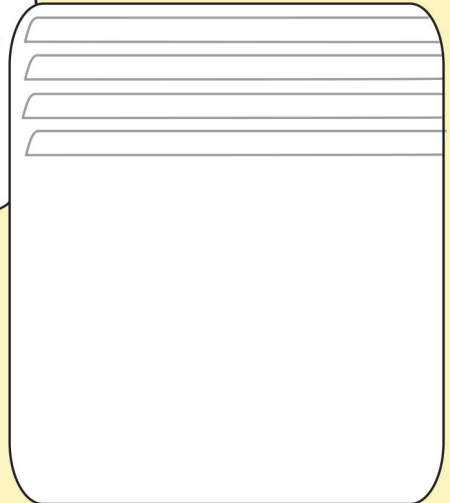
Let's investigate other pairs of angles on parallel lines with Mathomat.

Complete Cody's and Lia's parallel lines so that you can draw transversals in the boxes.

Draw transversals with Mathomat using the shapes 'F' and 'C'.



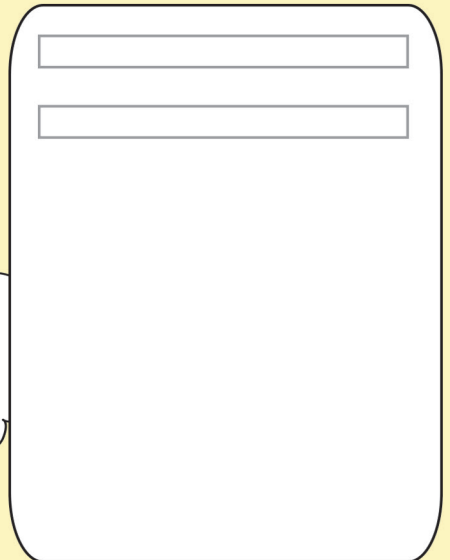
The 'F' shape helps me visualise a set of corresponding angles.



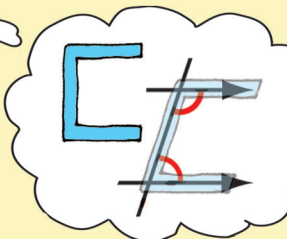
Use the 'F' shape to help find the corresponding angles. What do you discover about angles you have made?

Complete the sentence:
Corresponding angles in matching positions on the same side of the transversals are.....

What about co-interior angles on parallel lines? I can visualise them with a letter C.



What can you say about angles enclosed by the 'C' shape? Estimate, then measure.



Verify with Mathomat that they are supplementary and sum to 180°