Angles in Parallel Lines

Find the F and the Z

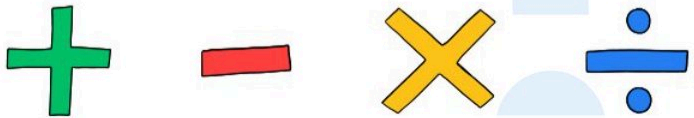


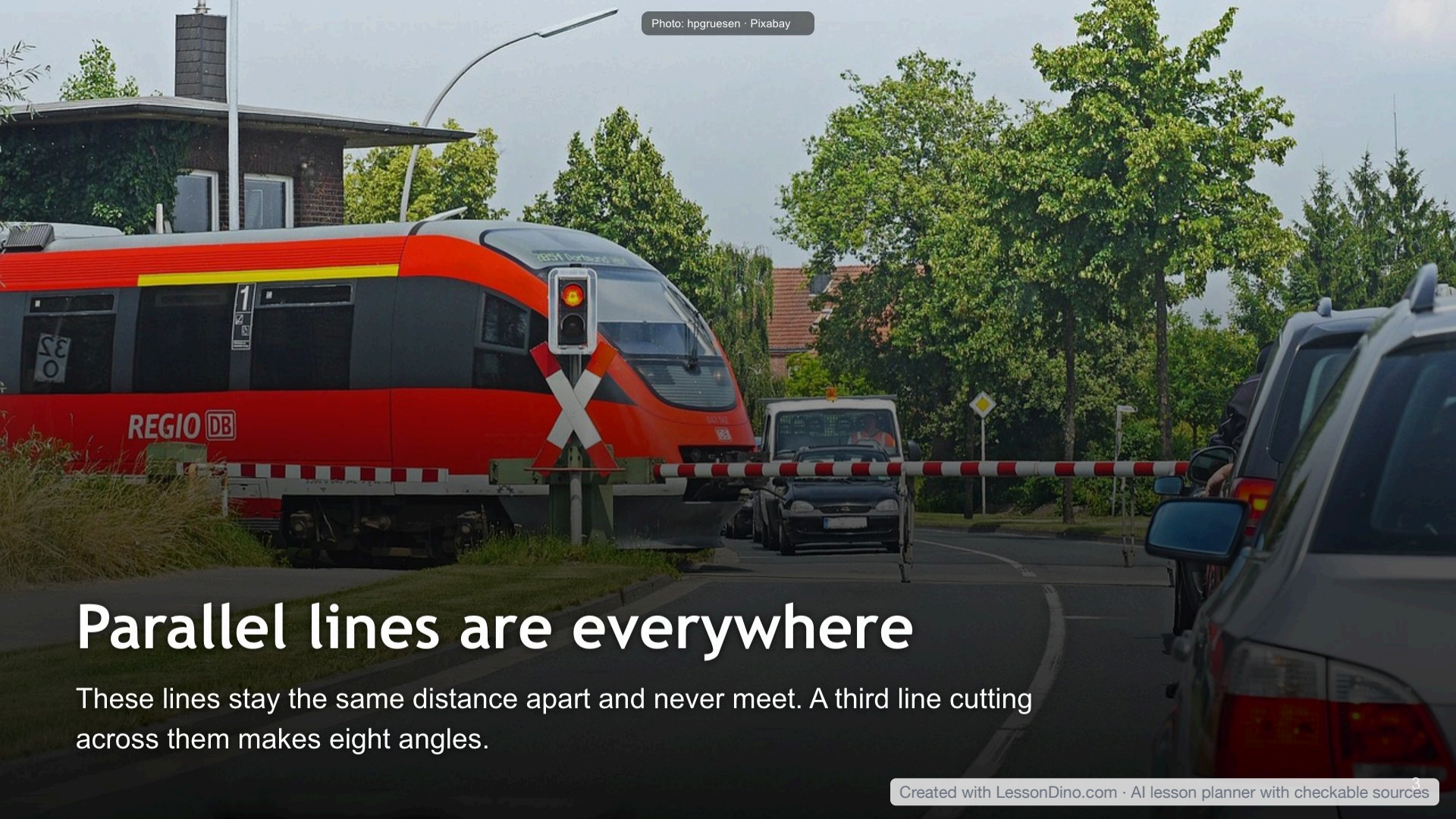
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Think, pair, share

When one slanted line cuts two parallel lines, how many different angle sizes do you see?







Parallel lines are everywhere

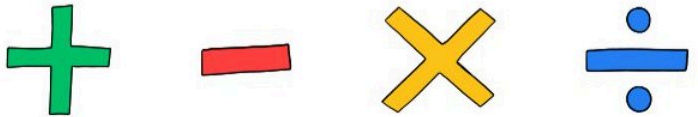
These lines stay the same distance apart and never meet. A third line cutting across them makes eight angles.

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What do we already know?

Angles

- Angles on a line add to 180 degrees
- Parallel lines never meet
- F and Z pairs are equal when lines are parallel
- Opposite angles where lines cross are equal
- A transversal cuts across the parallels



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$a^2+b^2=c^2$

What could this be?

What do this ladder and our angles have in common?

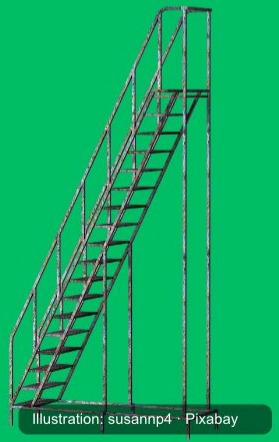
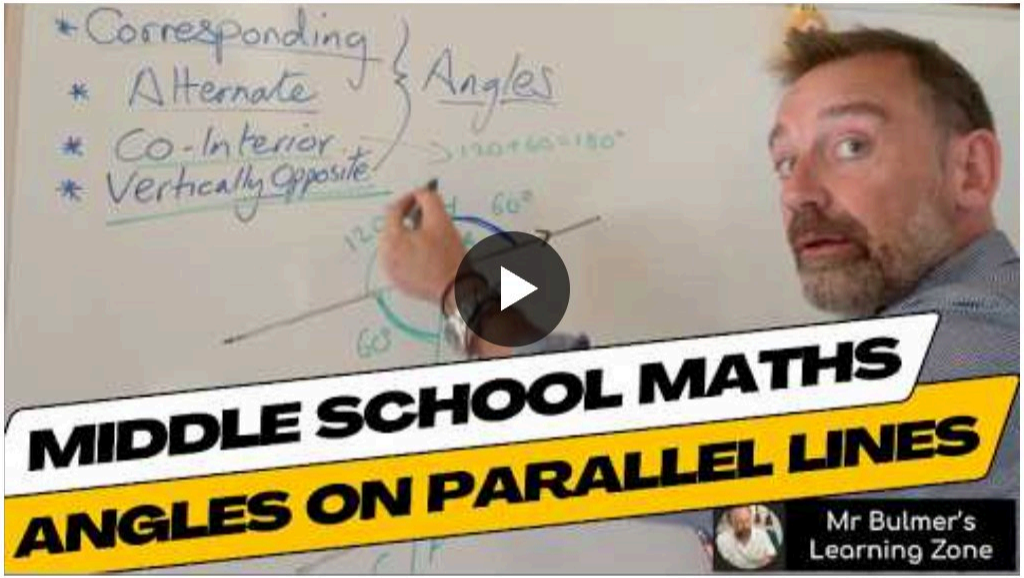


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Same spot, same size



▶ 0:00 – 5:00

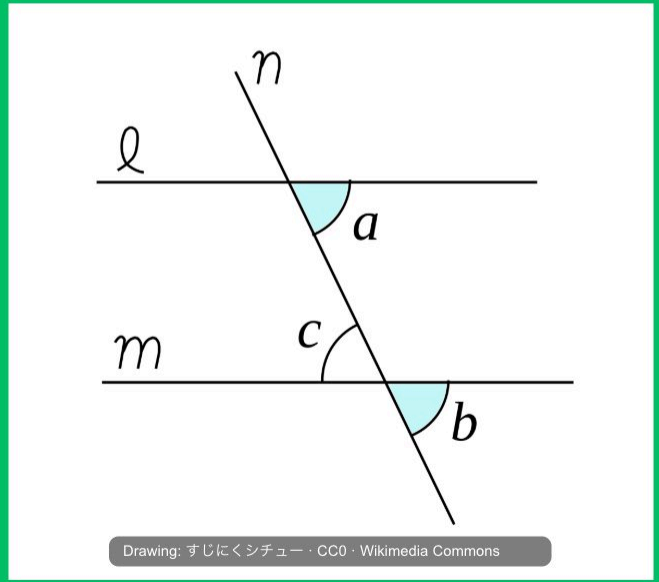
- Spot the F-shape for corresponding angles
- Spot the Z-shape for alternate angles

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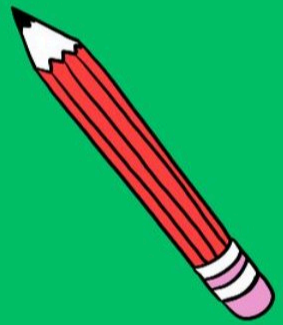
$a^2+b^2=c^2$

Two key facts to use

- Parallel lines never meet and stay same distance apart.
- Corresponding angles sit in matching spots on parallel lines and are equal.
- Alternate angles sit opposite on parallel lines and are equal.
- Look for F and Z shapes in any direction.

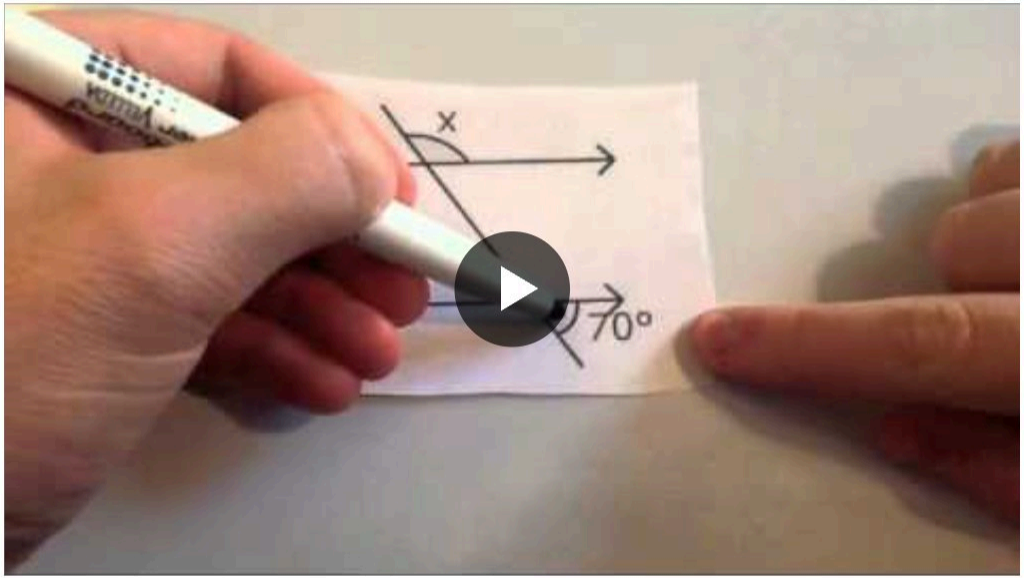


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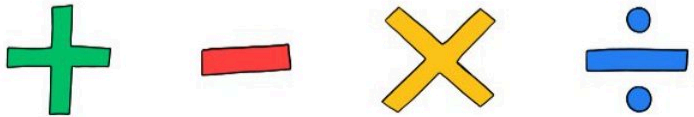
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Check it in a UK classroom



▶ 0:00 – 5:00

- Watch how to label alternate and corresponding
- Listen for the reason given every time



$a^2+b^2=c^2$

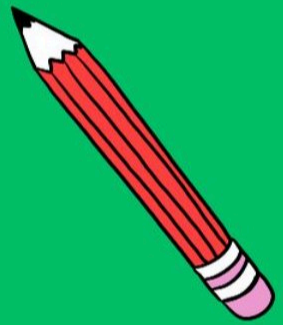
Your task

Draw your own parallel lines and find the hidden Fs and Zs.

1. Draw 2 parallel lines with arrows, cut by a transversal.
2. Measure one angle, find its F and Z partners.
3. Partner checks: equal? Say why.

10 min

In pairs



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Key words

parallel lines

Lines that stay the same distance apart and never meet.

transversal

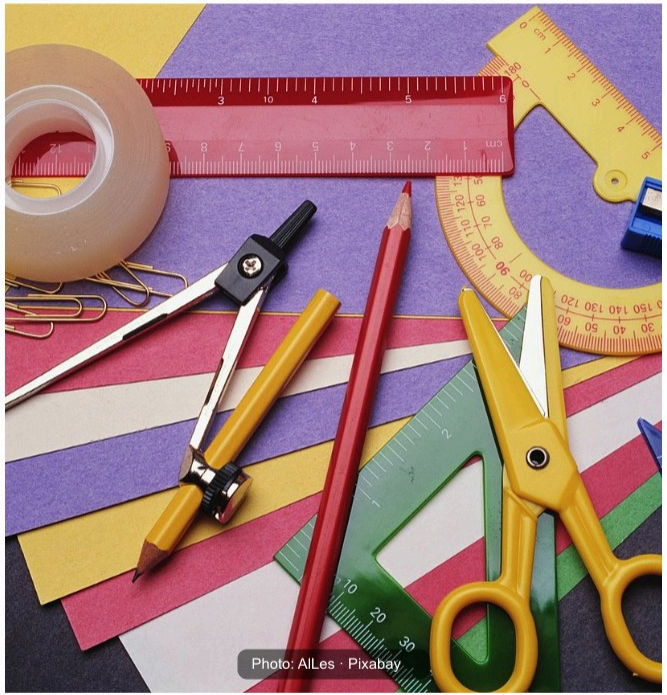
A line that cuts across two or more lines.

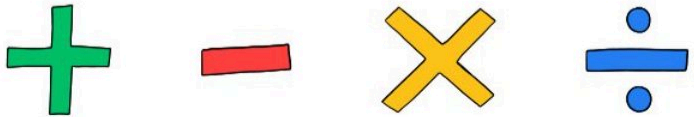
corresponding angles

Matching corners at each crossing on parallel lines; equal; make F.

alternate angles

Opposite sides, inside the parallel lines; equal; make Z.

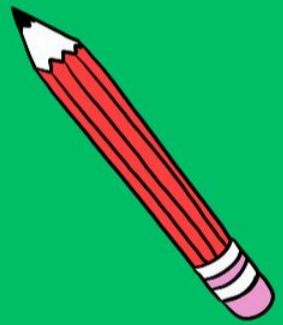




$a^2+b^2=c^2$

Which trick helps you?

Which memory trick will you use most?



A F for corresponding - same corner each time

B Z for alternate - zig-zag opposite sides

C Check parallel arrows first, then look

Vote with your hands, then explain why.

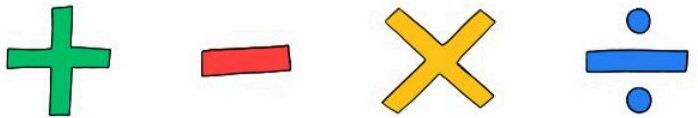
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True or false?

Corresponding angles are equal when lines are parallel.

Alternate angles add up to 180 degrees.

You must check lines are parallel before using F or Z.



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