

# RECALL – VERTICAL, HORIZONTAL LINES

Look at these world flags. Do they have horizontal, vertical or diagonal lines?  
Do any have more than 1 kind of line?



Afghanistan



Argentina



Austria



Belgium



Bolivia



Cameroon



Central African Rep.



Chile



Congo DR



Cuba



Czechoslovakia



Greece



Jamaica



Pakistan



Uruguay

Vertical goes up  
and down.



Horizontal goes left  
to right.

Which have only diagonal lines?

Which have only vertical lines?

Which have only horizontal lines?

Which flags have only diagonal and horizontal lines?

Which flags have only horizontal and vertical lines?



# LO: I CAN RECOGNISE TYPES OF LINES (PERPENDICULAR/PARALLEL)

Page

## Success Criteria

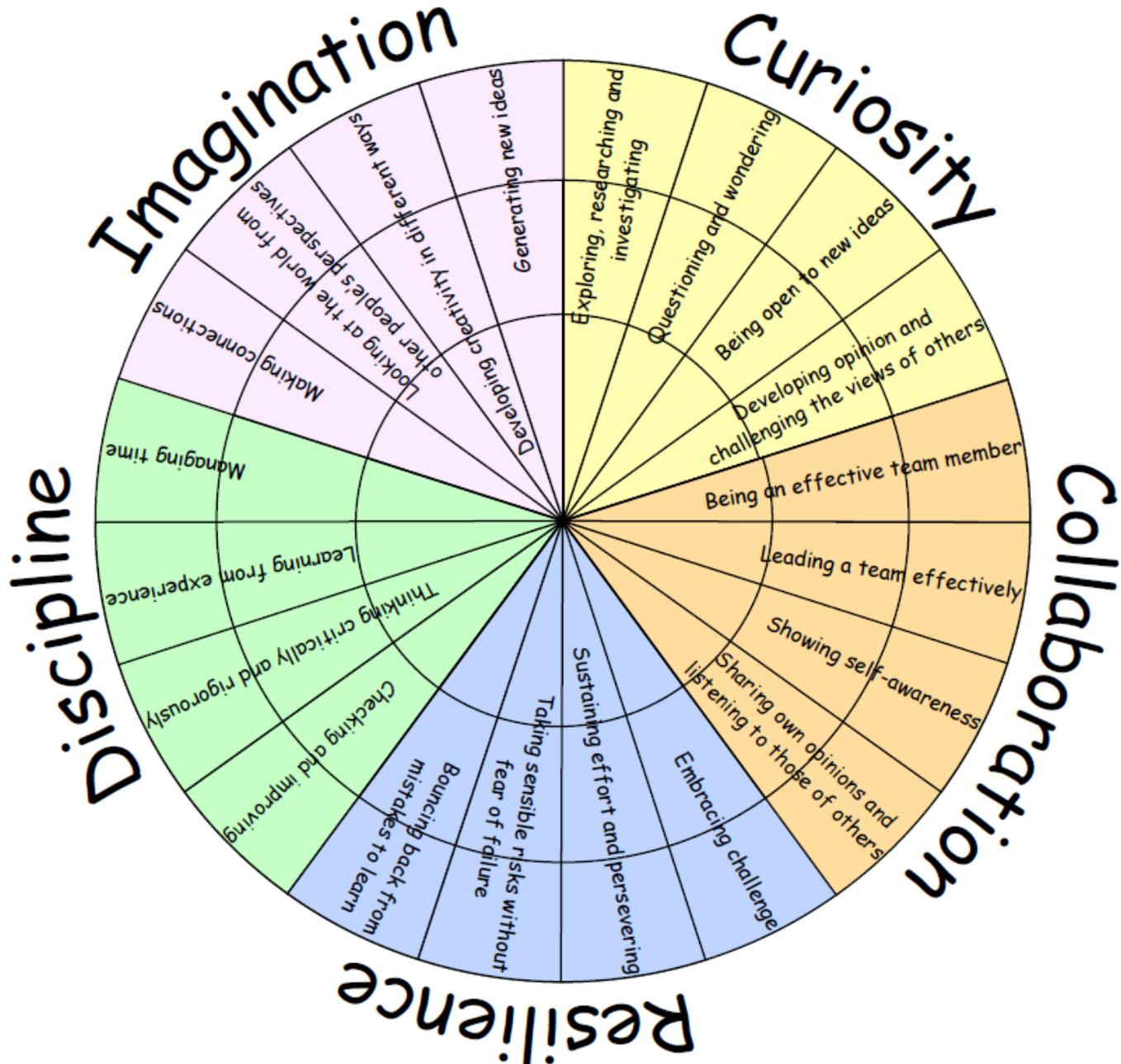
**Some will even** problem solve.

**Some will** create perpendicular and parallel lines.

**Most will** identify perpendicular and parallel lines.

**All will** identify horizontal and vertical lines.

# LEARNING HABITS?



# GUIDED PRACTICE

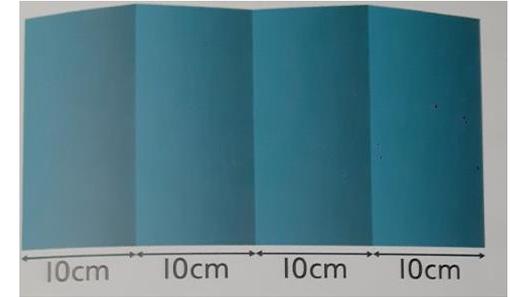
Isla folds her paper into a concertina.  
*What will it look like when she unfolds it?*

Max has made a concertina too. He then folds it in half.

*What will it look like when he unfolds it?*

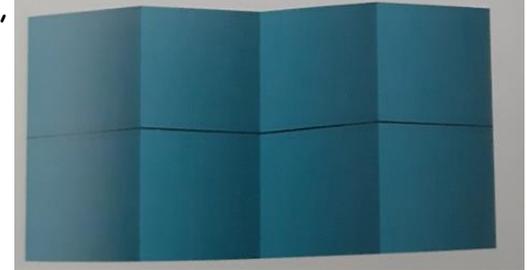


This is what Isla's concertina looks like when she unfolds it. She can see **parallel lines** made by the folds.



All of these ones are vertical but they can also be horizontal if she rotated her paper.

When Max opens his concertina, it will have **parallel lines** like Isla's, but it will also have **perpendicular lines** where he has folded it in half.

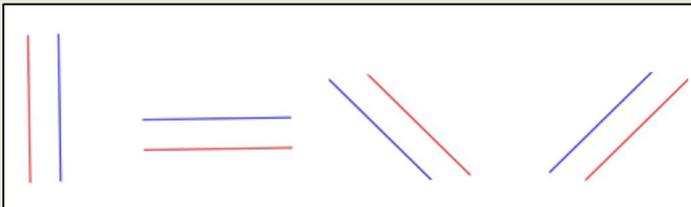


His vertical parallel lines meet the horizontal line in the middle.

Lines that stay the same distance apart are called **parallel lines**.



They never cross, even if they were a million miles long, they would never touch.

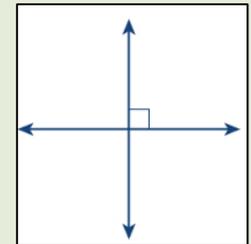


Lines that cross or meet at a right angle are **perpendicular lines**.



The lines do not always have to be vertical and horizontal, they could be rotated.

They are still perpendicular as long as they make the right angle.



# INTELLIGENT PRACTICE



Draw the second line for each example to make them parallel lines. Example A has been done for you.



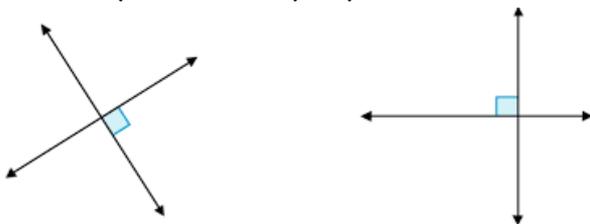
A	B	C	D	E

Draw the second line for each example to make them perpendicular lines. Draw the perfect square in the corner where your two lines connect. Example A has been done for you



A	B	C	D	E

Are these lines parallel or perpendicular? How do you know?



Make a list of lines in the classroom.  
 What objects have perpendicular lines?  
 What objects have parallel lines?  
 Do any objects have both?



# DIVE DEEPER 1

1

Choose the correct word to finish the two sentences below.

perpendicular

parallel



Lines that never meet are called \_\_\_\_\_ lines.



Straight lines that meet to make a right angle are called \_\_\_\_\_ lines.

2

Draw a line that is parallel to the green line.



Draw a line that is perpendicular to the blue line.



3

Label these sets of lines.  
Which lines are parallel?  
Which lines are perpendicular?

A



B



C



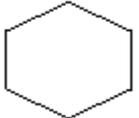
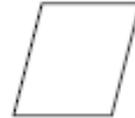
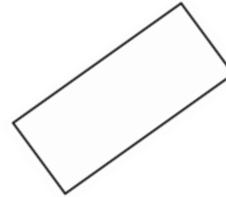
4

Draw a little square inside the shape where perpendicular lines meet to make a right angle. Only show 1 example in each shape. Colour the **horizontal** and **vertical** line that connect. The triangle has been done for you.



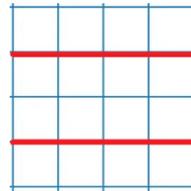
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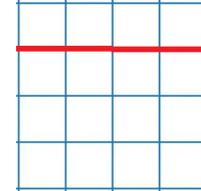
Colour a pair of parallel lines in each shape. You only need to show one pair per shape. The square has been done for you.

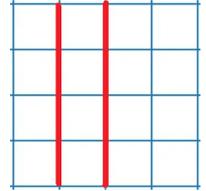


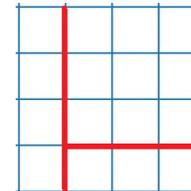
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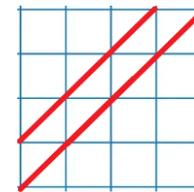
Label each example of red lines - parallel or perpendicular?

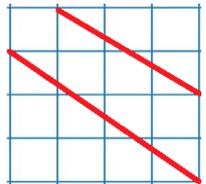










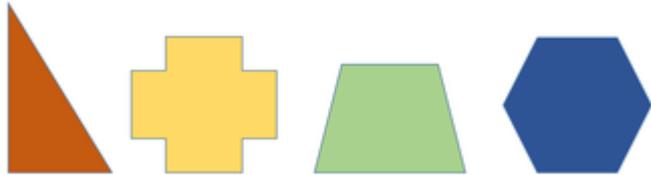


# DIVE DEEPER 2

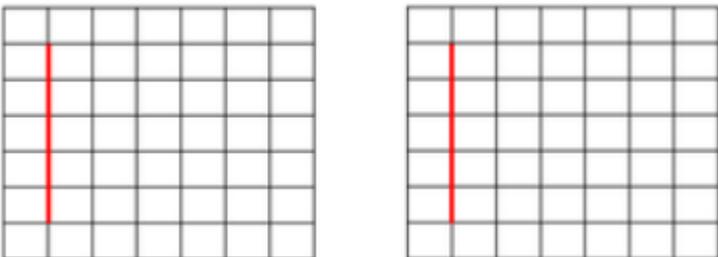
1 Look at each word below.  
Circle all of the letters with parallel lines.  
Tick all the letters with perpendicular lines.  
Be careful, some have neither.

THOR HULK  
LOKI HAWKEYE

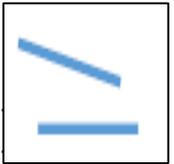
2 Circle the shapes with parallel lines.  
Tick the shapes with perpendicular lines.  
Some may have both.



3 In the first box, draw a line that is parallel to the red line. In the second box, draw a line that is perpendicular to the red line.



4 These lines are not parallel.  
Convince me.



5 Train tracks have parallel lines  
and perpendicular lines.  
True or false?  
Why?

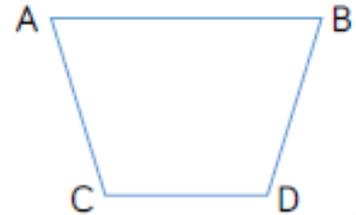


6 True or false?

Line AB is parallel to line CD.

Line AC is parallel to line BD.

Line AC is perpendicular to line CD.



Now, redraw it so line BD is perpendicular to line CD.



7 Mark 3 sets of  
parallel lines  
and 3 sets of  
perpendicular  
lines in this  
flag.



After, design your own flag containing parallel and perpendicular lines.

