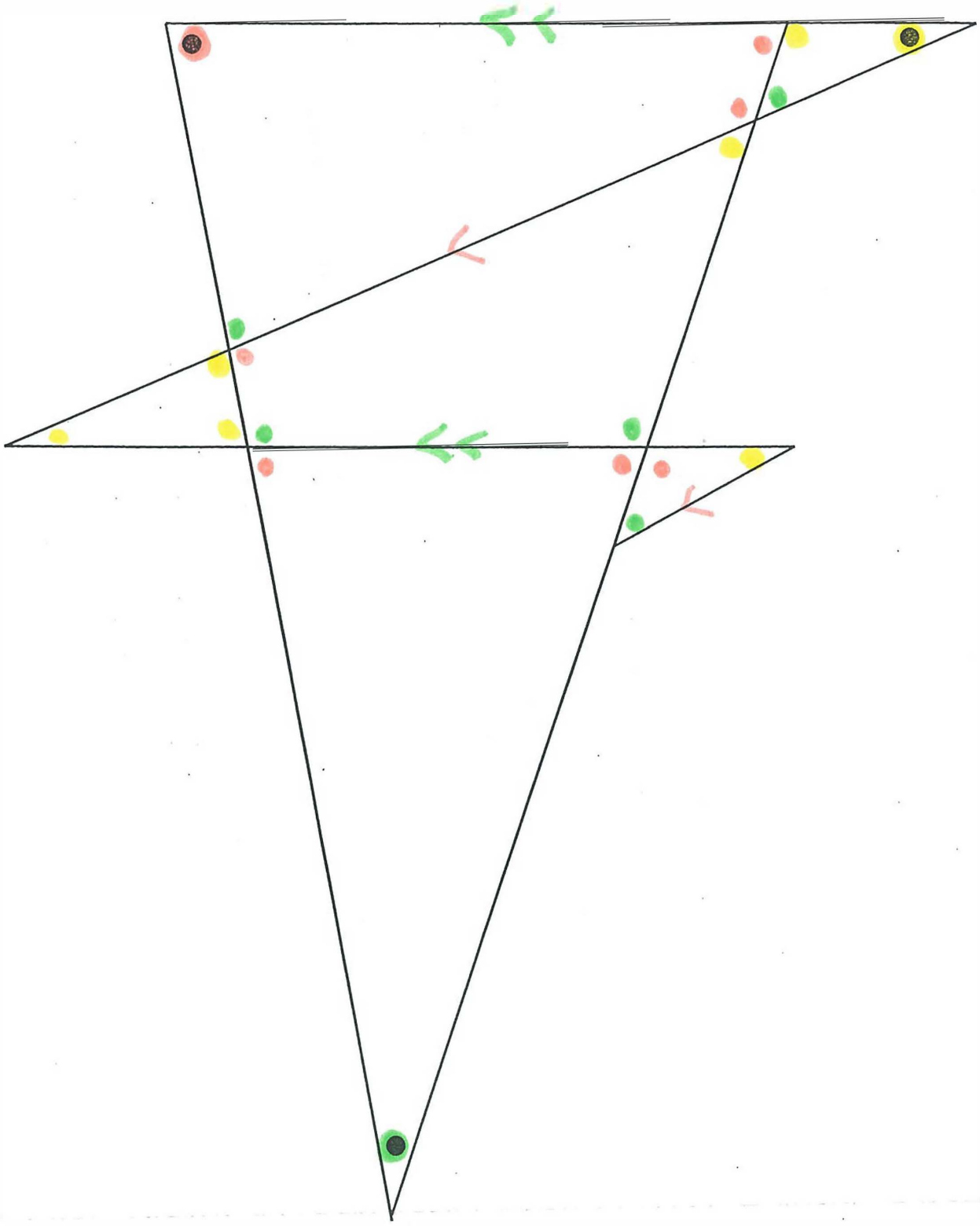

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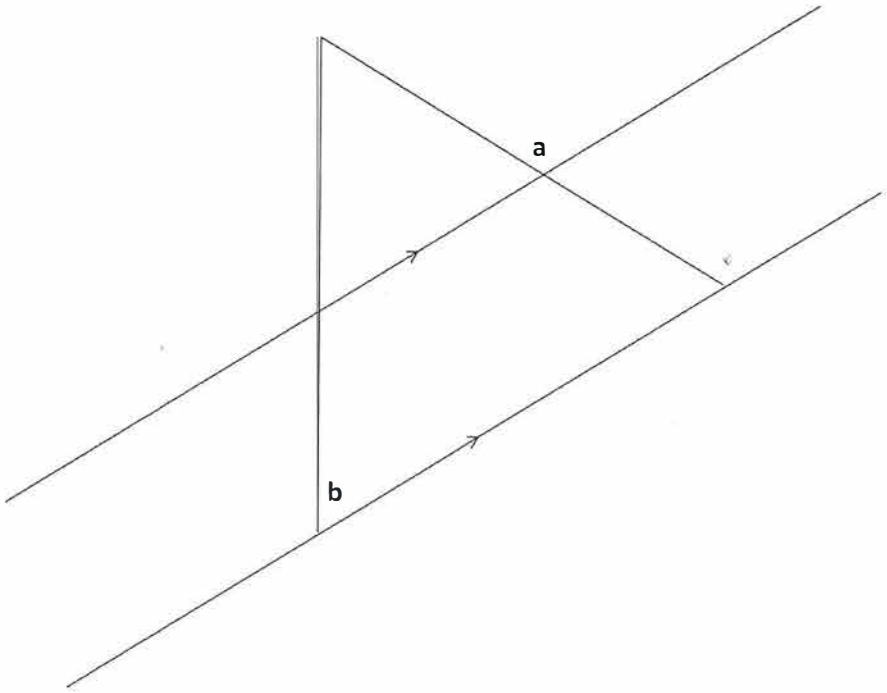
Year 7

Geometric Reasoning Task

If you know the size of the angles **a** and **b,** how many other angles can you determine?

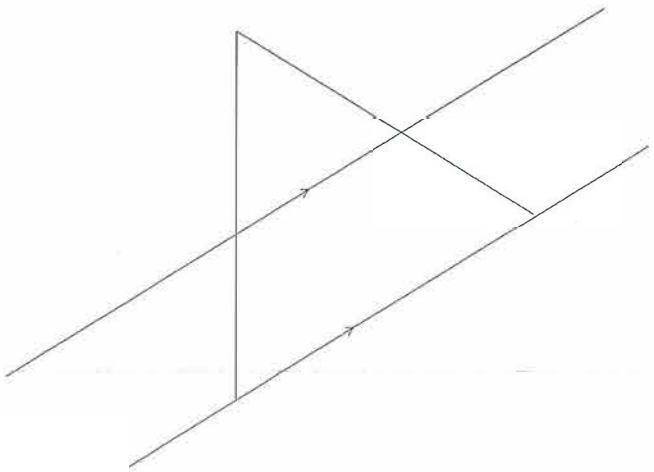


Use geometric reasoning to explain how you can determine each angle.

Coloured markers may be of assistance to help communicate your results clearly.

B =

A =



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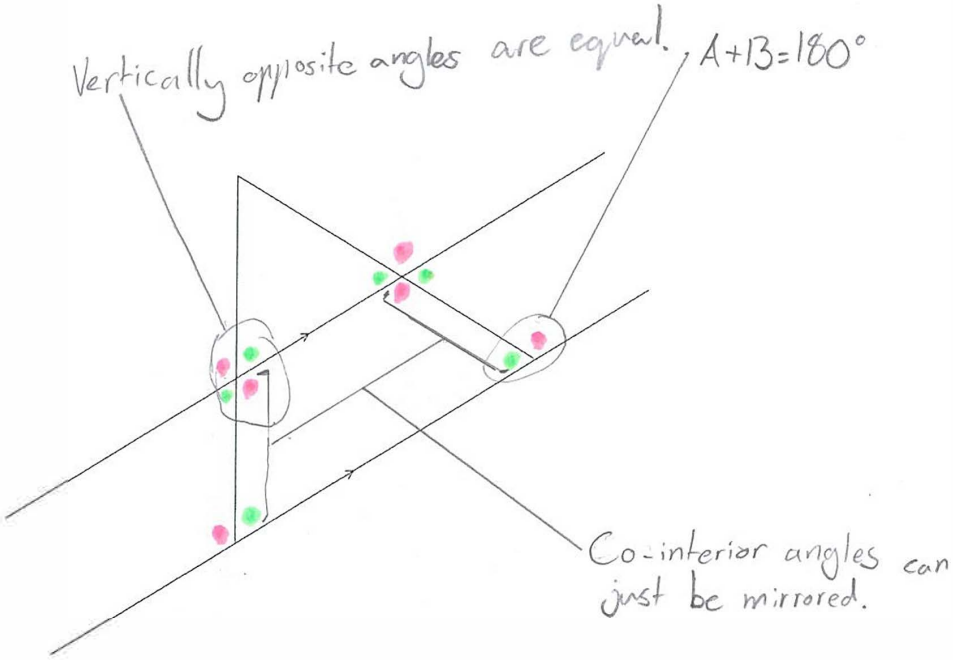

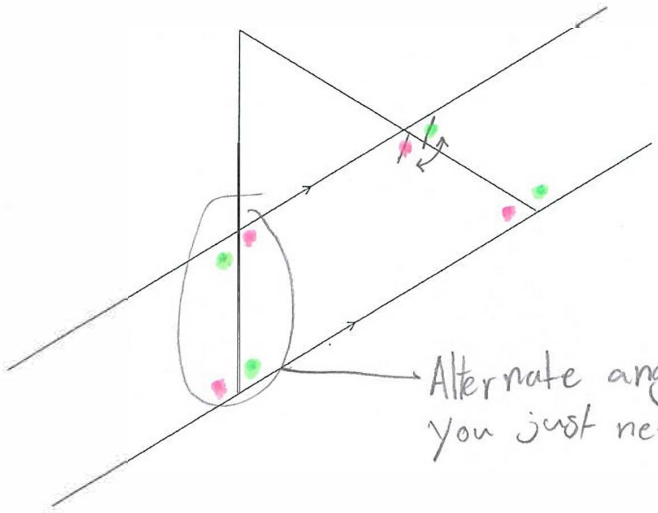

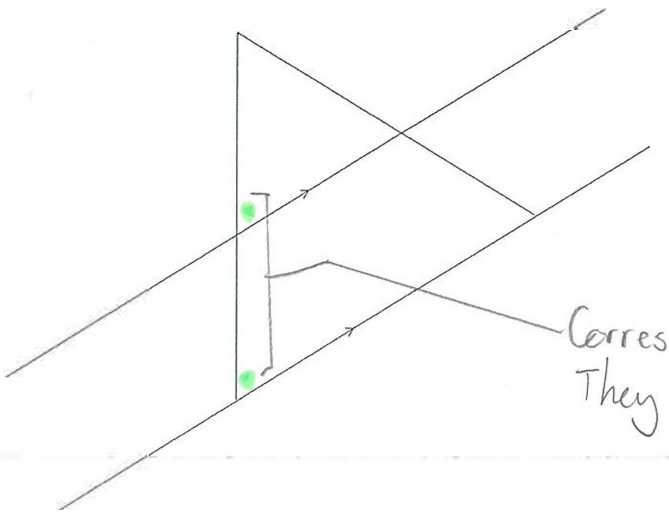

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In summary my findings are ....

Most of the angles were equal to each other, it was just the placement that was a bit difficult to find.

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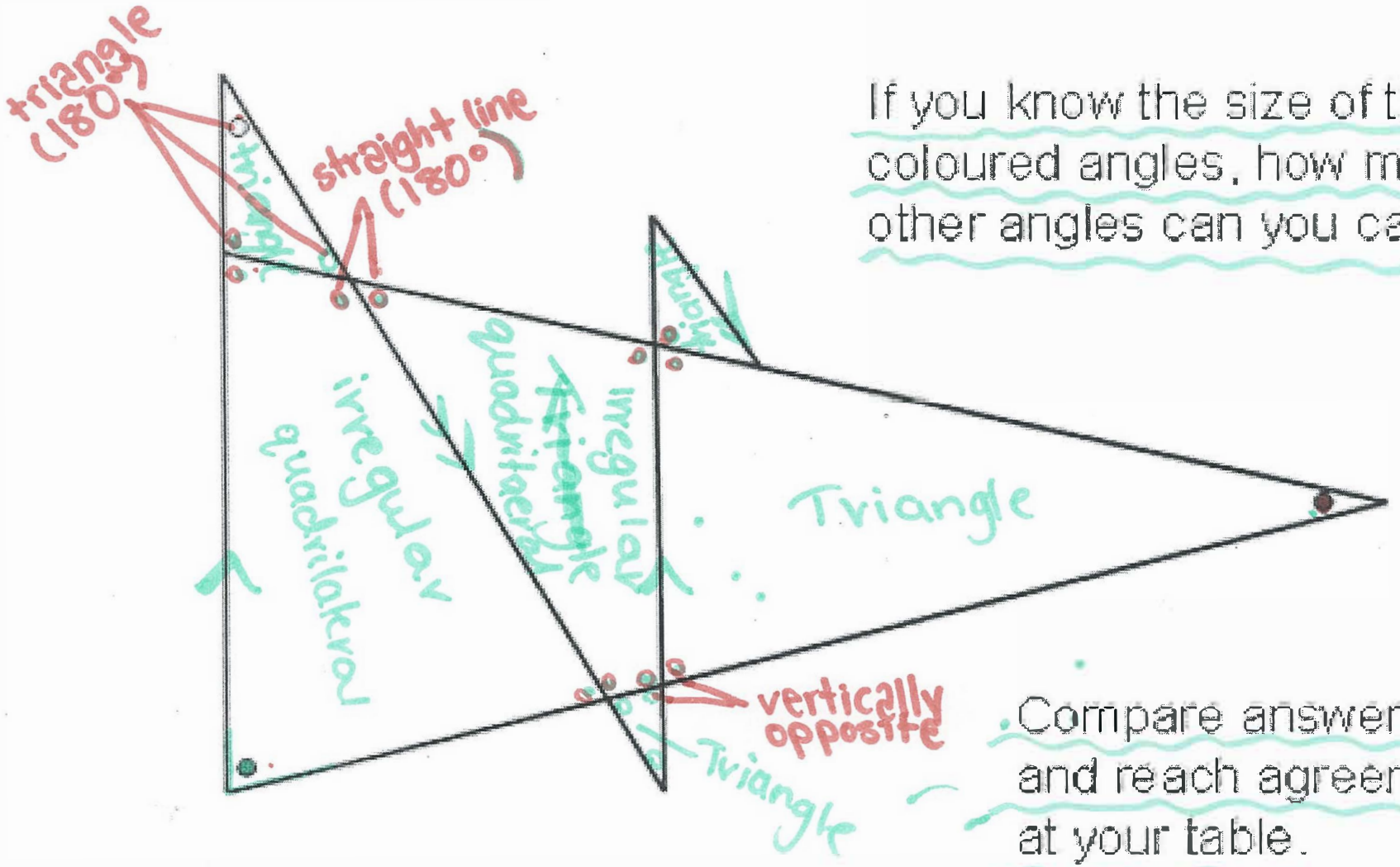

If you know the size of the coloured angles, how many other angles can you calculate?

Compare answers and reach agreement at your table.

- Angles in a triangle add up to 180°
- Angles on a straight line add up to 180°

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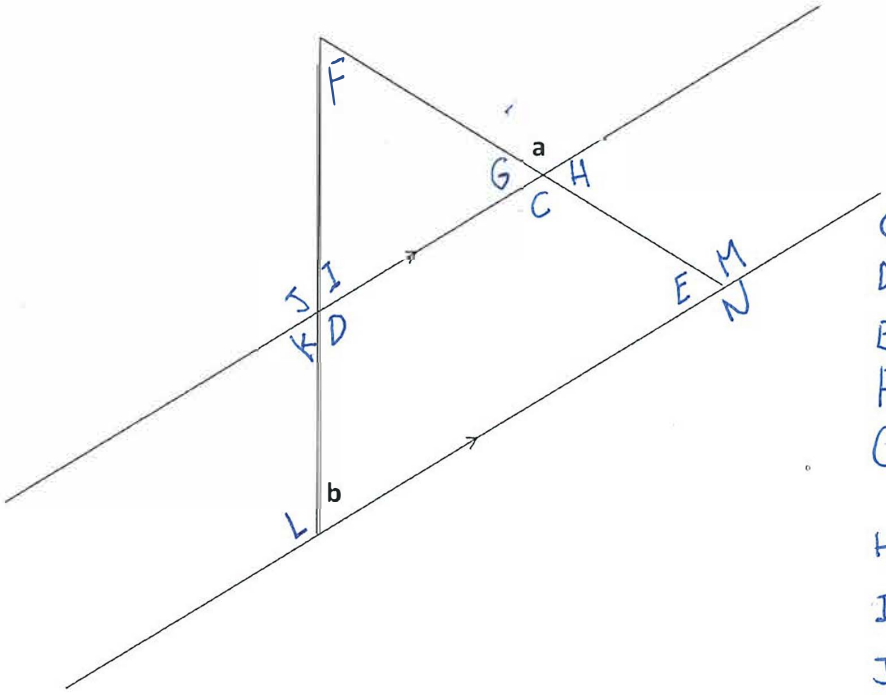
Year 7

Geometric Reasoning Task

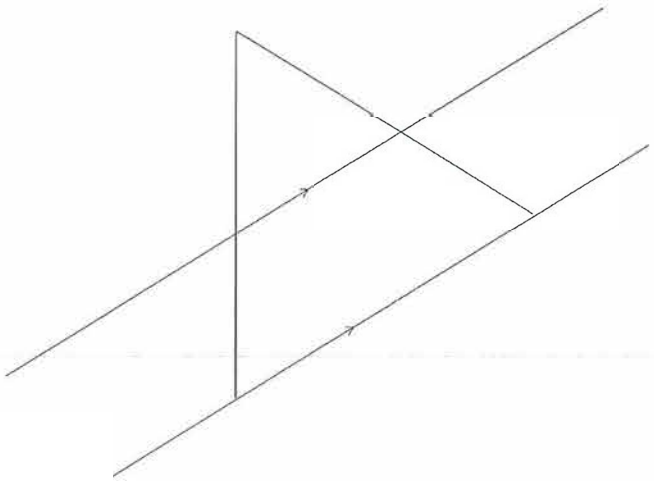
If you know the size of the angles **a** and **b,** how many other angles can you determine?



C = verticly opposite
D = co-interior
E = co-interior
F = triangle - 180°
G = $\frac{A+C-180}{2}$
H = Vertically opposite
I = triangle 180°
J = angles on a line 180°
K = vertically opposite
L = co-interior
M = angles on straight line - 180°

Use geometric reasoning to explain how you can determine each angle.

Coloured markers may be of assistance to help communicate your results clearly.



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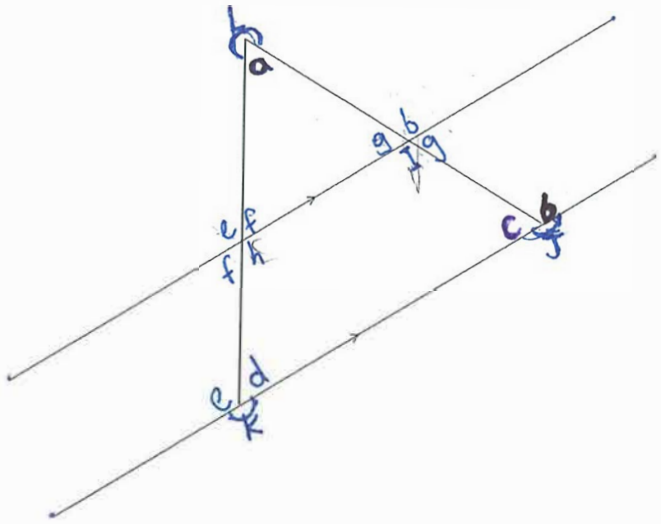
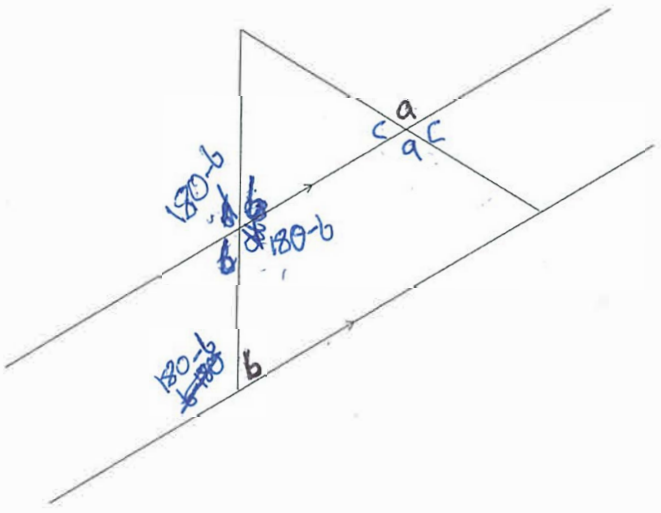


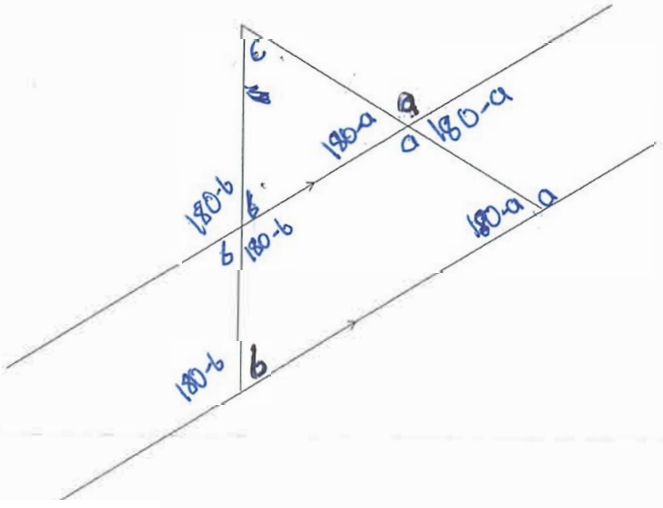


$b + (180-b) = 180$

$c = \frac{180-(a+a)}{2}$

$d =$ co-interior

$e = \frac{360-(d+d)}{2}$



$c = 180-(b+(180-a))$

$c = a-b$

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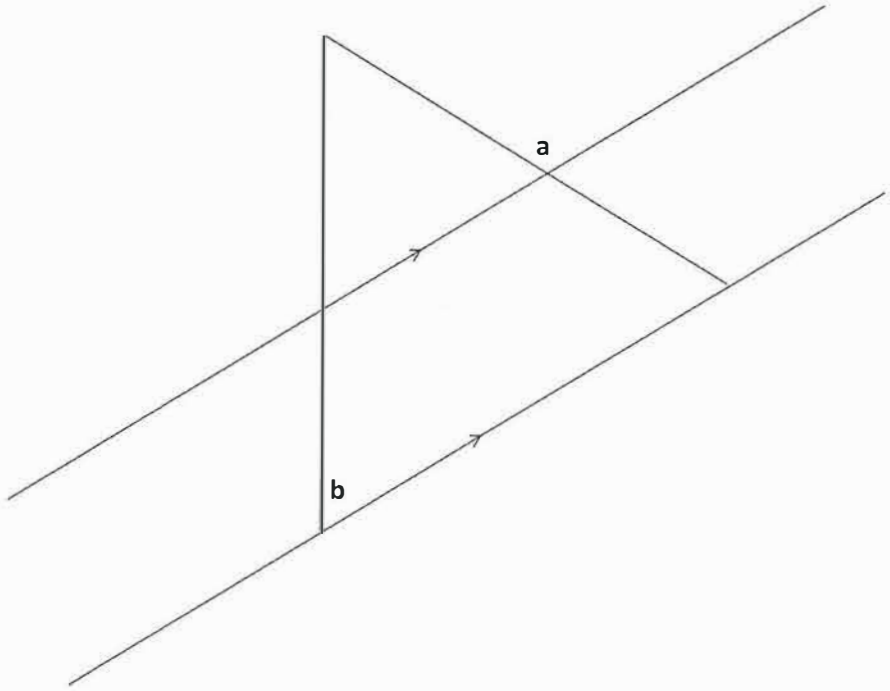
Year 7

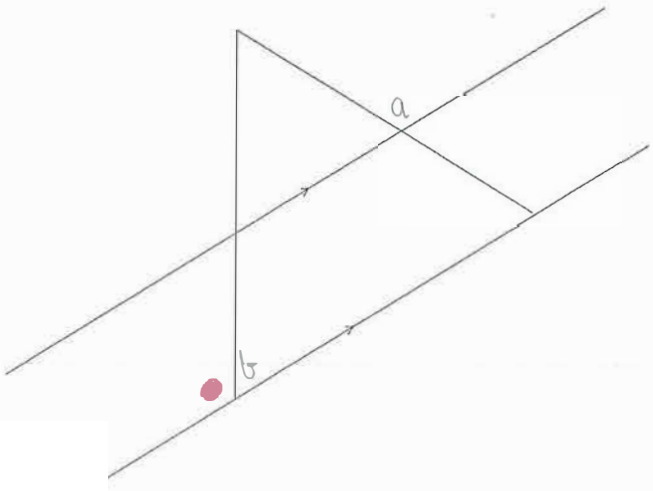
Geometric Reasoning Task

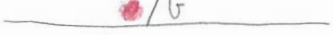
If you know the size of the angles **a** and **b,** how many other angles can you determine?



Use geometric reasoning to explain how you can determine each angle.

Coloured markers may be of assistance to help communicate your results clearly.





We can determine the red dot angle because we know that angles like this add up to 180°. If we knew what b was then we would take b from 180 and that would be the angle of the red dot.

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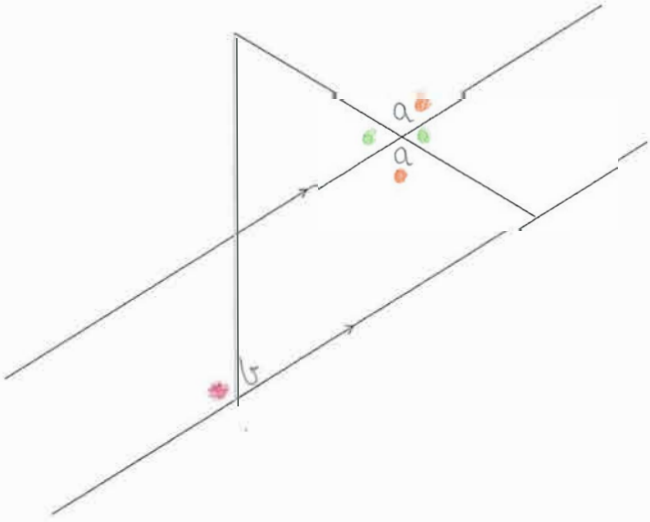
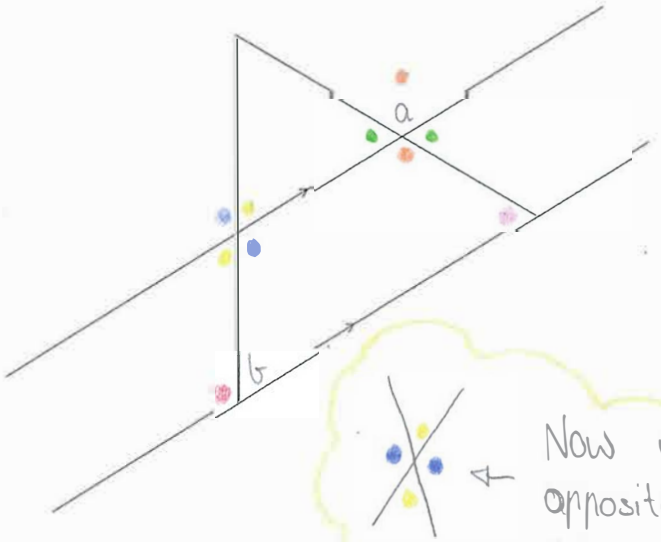
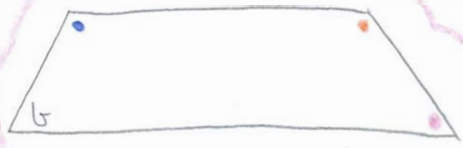


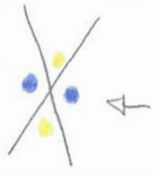
We can also use vertically opposite angles like the one above to find out other angles in that 360° angles. If we knew what a was then we could find out what the other angles are.

Co-interior angles add up to 180°
180 - b = ●

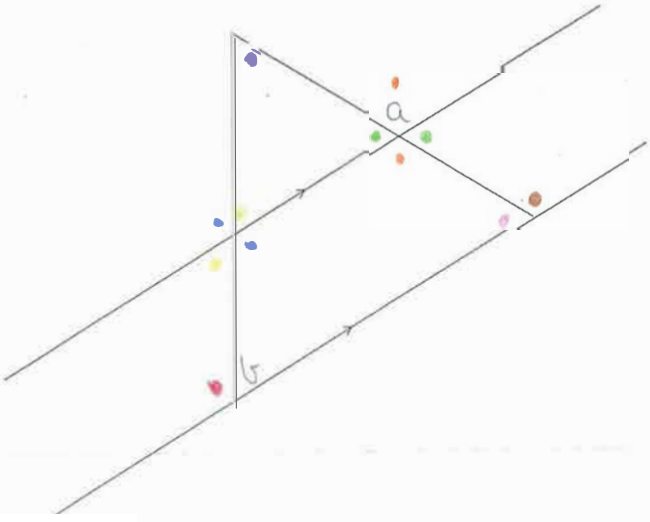




Quadrilaterals = 360°
360° - b - ● - ● = ●



Now we can find out these angles using opposite angles and subtracting the others from 360°



Now we can work out the other angle because in a triangle it equals 180°

Using co-interior angles (which equals 180°) we can find out the last angle

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In summary my findings are ….