Solve problems involving exterior angles

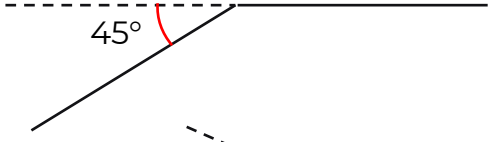
Maths

Mr Clasper

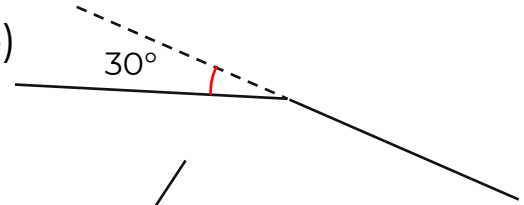
Solve problems involving exterior angles

1. Each diagram shows two sides of a regular polygon. Find the number of sides each polygon has.

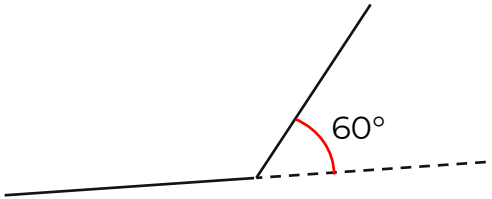
a)



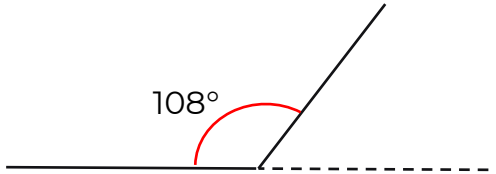
b)



c)



2. David is trying to calculate the number of sides of a polygon with this interior angle.



Here is his working.

360 ÷ 108 = 3.333333.....
A polygon must have a whole number of sides!

Explain David's mistake.

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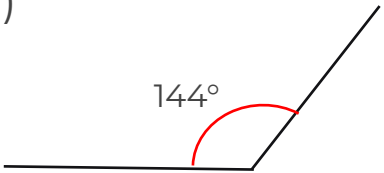
3. Each diagram shows two sides of a regular polygon.
Find the number of sides of each polygon.

a)



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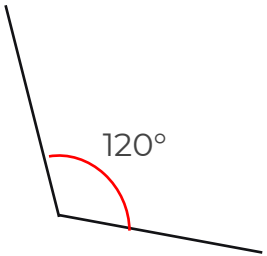
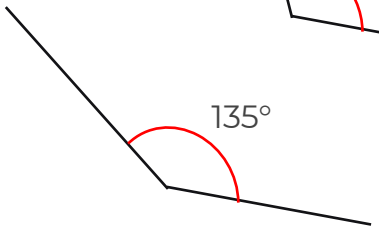
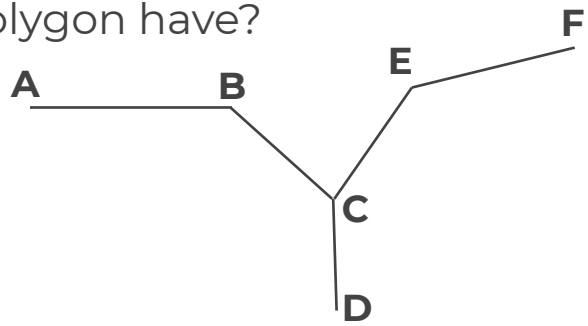


c)



4. ABCD is part of a regular polygon. DCEF is part of a regular polygon with a greater number of sides. The two polygons have the side CD in common. The size of angle BCE is 105°. How many sides does each polygon have?



Answers

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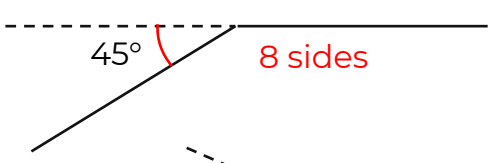
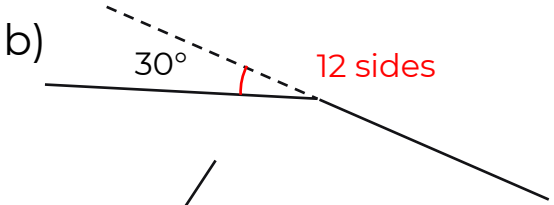
1. Each diagram shows two sides of a regular polygon. Find the number of sides each polygon has.

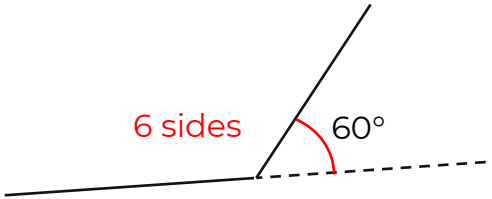
a)



b)



c)



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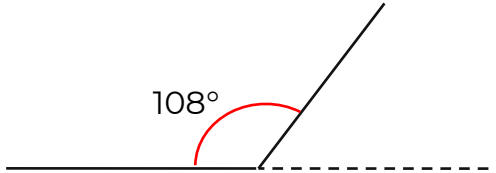

Here is his working.

360 ÷ 108 = 3.333333.....
A polygon must have a whole number of sides!

Explain David's mistake.

He has used the interior angle rather than the exterior

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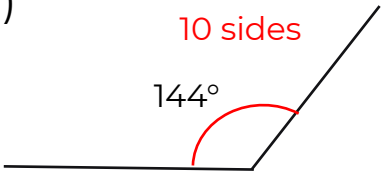
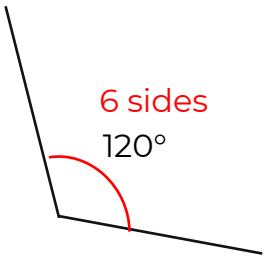
3. Each diagram shows two sides of a regular polygon.
Find the number of sides of each polygon.

a)



b)



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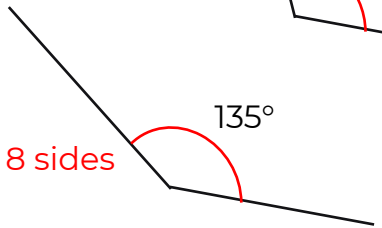

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