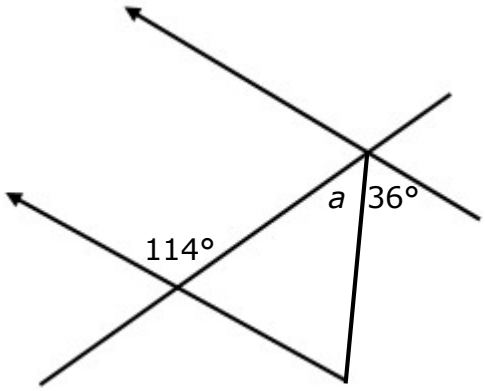
Basic Angles and Shapes Practice #6 (Extension)

1.

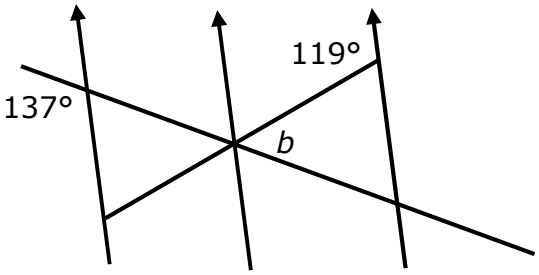


Angle *a* = ……

Reasons = ……

……

2.



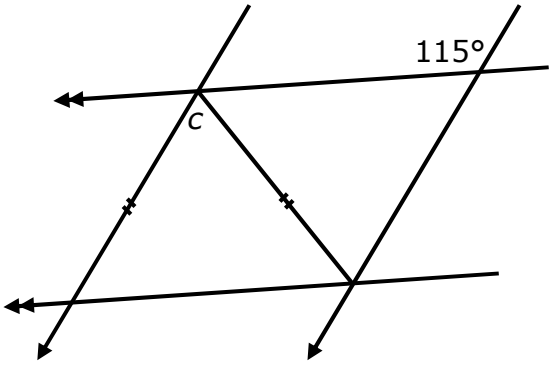
Angle *b* = ……

Reasons = ……

……

……

3.



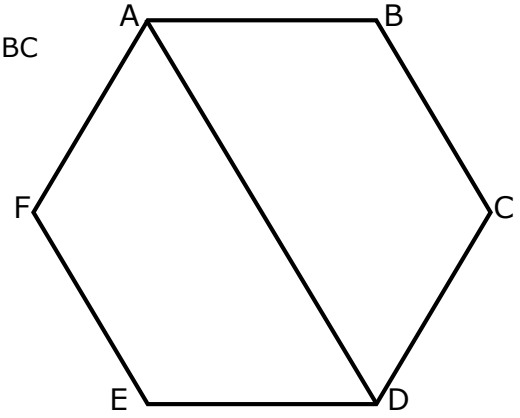
Angle *c* = ……

Reasons = ……

……

……

4.



ABCDEF is a regular hexagon. Show AD is parallel to BC

Proof = ……

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……

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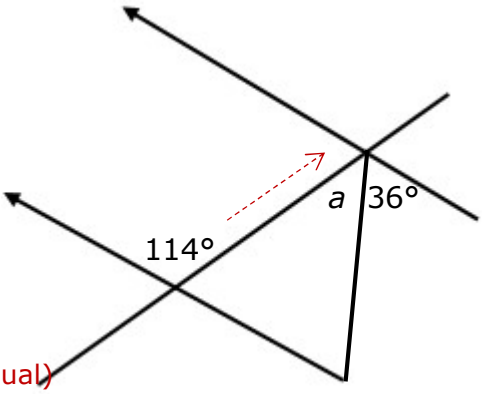
Answers: Basic Angles and Shapes Practice #6 (Extension)

1.



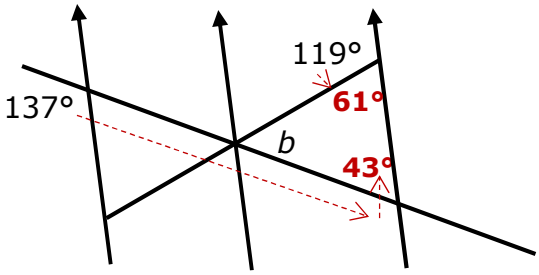
Angle *a* = **78°**

Reasons = **66° as co-interior on || add to 180°**

66 + *a* + 36 = 180° (Angles on a line)

(or 114 = *a* + 36 as alternate on || are equal)

2.



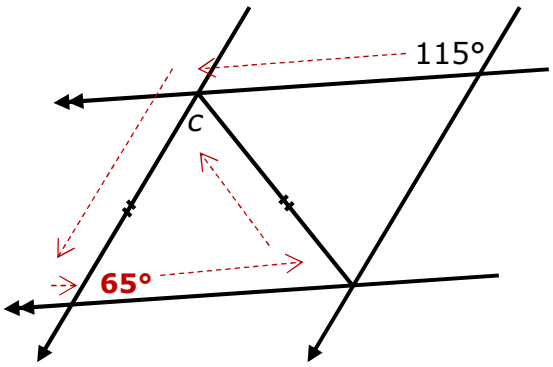
Angle *b* = **76°**

Reasons = **Corresponding on || are equal**

Angles on a line add up to 180° × 2

Angles in a Δ add up to 180°

3.



Angle *c* = **50°**

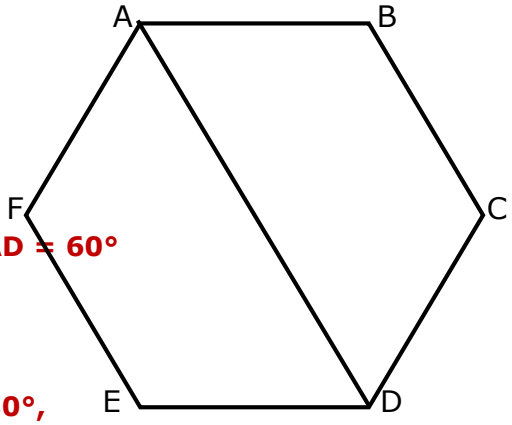
Reasons = **Corresponding on || are equal × 2**

Angles on a line add up to 180°

Base angles isosceles Δ are equal

Angles in a Δ add up to 180°

4.



ABCDEF is a regular hexagon. Show AD is parallel to BC

Proof = **Interior angles reg hex = (4 × 180) ÷ 6**

∠ABC = 120°. AD cuts ∠BAF in half so ∠BAD = 60°

∠BAD + ∠ABC = 60 + 120 = 180°

Angles co-interior to BC and AD add to 180°, so the lines must be parallel

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