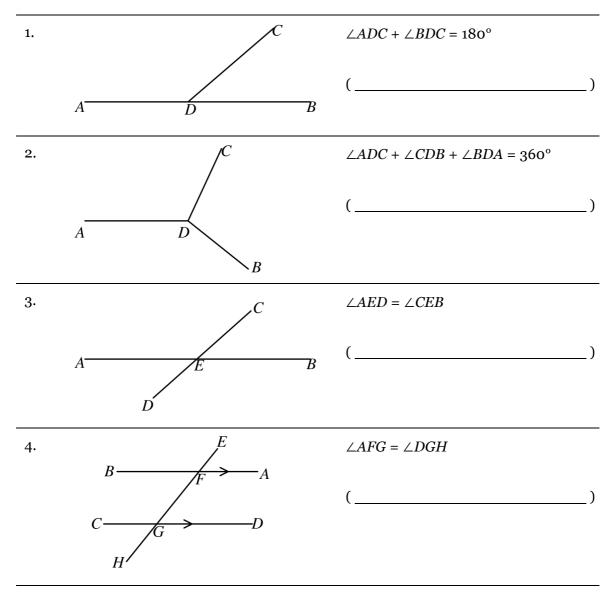


Deductive geometry toolkit: Student worksheet

http://topdrawer.aamt.edu.au/Geometric-reasoning/Good-teaching/Writing-a-proof/Proving-Pythagoras-theorem/Geometry-toolkit

Keep this sheet as a summary of geometry reasons. Complete the following by giving the reasons for each statement. In each example, mark the angles mentioned in the diagram. Use the same mark if the angles are equal and a different mark if they are not equal.



AAMT — TOP DRAWER TEACHERS

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5.	E	$\angle BFG = \angle FGD$
	$B \longrightarrow A$	()
	$C \longrightarrow D$	
	Н	
6.	E	$\angle BFG + \angle FGC = 180^{\circ}$
	$B \longrightarrow A$	()
	$C \xrightarrow{\hspace{1cm}} G \xrightarrow{\hspace{1cm}} D$	
	н/	
7.		$\angle P + \angle Q + \angle R = 180^{\circ}$
		()
	$R \xrightarrow{\frown} Q$	
8.	\bigwedge^A	$\angle B = \angle C$
	\neq \downarrow	()
	$B \not _ _ _ C$	
9.	\bigwedge^A	$\angle A = \angle B = \angle C = 60^{\circ}$
	\neq \neq	()
	B / C	
10.	$\stackrel{A}{\frown}$	$\angle ACD = \angle A + \angle B$
		()
	$B^{2} \longrightarrow D$	
11.		$\angle A + \angle B + \angle C + \angle D = 360^{\circ}$
		()
	AZD	

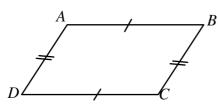
12. Special quadrilaterals

In addition to the reasons given so far you can use the properties of quardilaterals to give reasons for

- intervals being the same length
- lines being parallel
- angles being equal
- angles being 90°.

Below are just two examples but there are many more reasons associated with special quadrilaterals

(a)



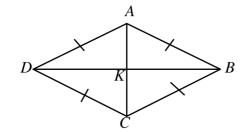
ABCD is a parallelogram
(two pairs of opposite sides equal) *AB* || *DC*



ii) $\angle B = \angle D$

(_____)

(b)



ABCD is a rhombus

i) $\angle BAK = \angle KAD$

(_____)

ii) $\angle BKA = 90^{\circ}$

(_____)

iii) BK = KD

(_____)