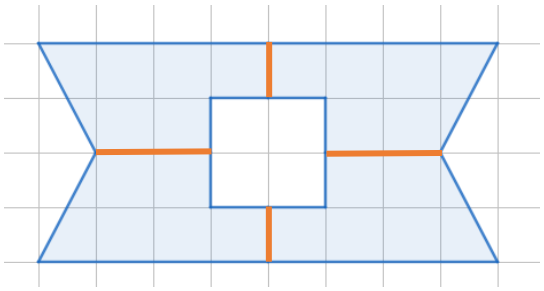
	Congruent shapes Mark Scheme:	
1	y = 50º	[1]
2	…N… and …A… and …H…	[1]
	…B… and …O… and …L…	[1]
	…P… and …Q…	[1]
	…M… and …K…	[1]
3(a)		[1] Correctly divided shape
3(b)	Dan is incorrect,	[1] mark requires an attempted explanation not just for stating answer
	Because the shape doesn't have any more lines of symmetry	[1]
4	Two triangles can show to be congruent using the SAS – side - angle - side rule.	[1] Identifying congruency rules
	$AB = XZ \rightarrow \angle CBA = \angle ZXY \rightarrow CB = XY$	[1] Show SAS using correct lengths and angle
5(a)	$x + 4x + 7x = 180$ $12x = 180$ $x = 180 \div 12 = 15º$ And then substitute this value of x into Sophie's angles:	[1] Identifying angles will sum to 180º and attempt to find the value of x
	$x = 15$ $4x = 60$ $7x = 105$ Yes, Ben is correct.	[1] For showing all 3 angles are correct
5(b)	We cannot say if they are congruent or not, because we don't know the lengths of the sides.	[1] Reasoning due to no lengths of sides
6(a)	$BE = EC$ $\angle ABC = \angle DCE = 90°$	[1] Correct logic
	$DE = AE$ So, we have two right angle triangles with equal hypotenuses and equal shorter sides, so they are congruent.	[1] Correct explanation required

6(b)	Triangle **GFE** is an isosceles $\angle GFE = \angle EGF$ $\boldsymbol{FE = GE}$ $\boldsymbol{AE = DE}$ *and* $\boldsymbol{FA = GD}$	[1] Correct logic
	We can therefore say that triangle **ADE** is an isosceles triangle and that: $\angle DAE = \angle EDA$	[1] Identification of isosceles
	$\angle FAD + x = 180$ $\angle GDA + x = 180$ $\angle FAD + x = \angle GDA + x$ $\angle FAD = \angle GDA$	[1] Logic applied using algebra
	$\boldsymbol{FA = GD}$ $\angle FAD = \angle GDA$ $\boldsymbol{AD = AD}$	[1] Use of the side-angle-side rule to show that they are congruent.
7(a)	**AAS** **SAS**	[1] for two correct
	RHS **SSS**	[1] for four correct and no incorrect answers circled
	ASA	[1] for five correct and no incorrect answers circled
7(b)	**AAA** wouldn't prove congruence because the sides could be different length. The triangles would however be similar.	[1] Suitable explanation or diagram
	SSA wouldn't prove congruence because the angle between the two given sides could be anything, with the third side being different depending on the angle.	[1] Suitable explanation or diagram

END