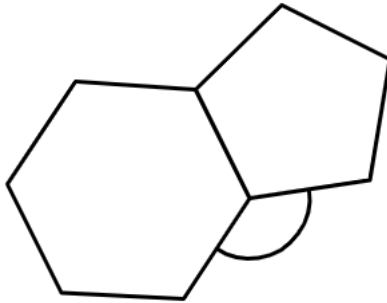


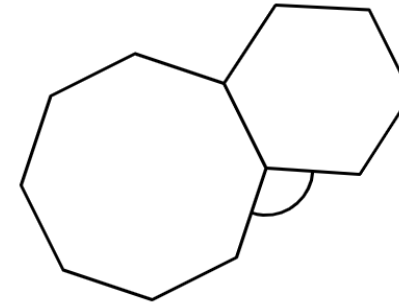
a)
Here is a regular hexagon and a regular pentagon.



Work out the size of the marked angle.
You must show all your working.

What are the sizes of the known angles?	Number of sides? 6 Number of triangles? $6 - 2 = 4$ $4 \times 180^\circ = 720^\circ$ Each angle = $720^\circ \div 6 = 120^\circ$
	Number of sides? 5 Number of triangles? $5 - 2 = 3$ $3 \times 180^\circ = 540^\circ$ Each angle = $540^\circ \div 5 = 108^\circ$
What is the size of the unknown angle?	$360^\circ - (120^\circ + 108^\circ) = 132^\circ$

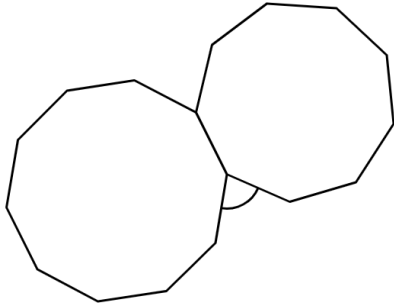
b)
Here is a regular octagon and a regular hexagon.



Work out the size of the marked angle.
You must show all your working.

What are the sizes of the known angles?	Number of sides? 8 Number of triangles? $8 - 2 = 6$ $6 \times 180^\circ = 1080^\circ$ Each angle = $1080^\circ \div 8 = 135^\circ$
	Number of sides? 6 Number of triangles? $6 - 2 = 4$ $4 \times 180^\circ = 720^\circ$ Each angle = $720^\circ \div 6 = 120^\circ$
What is the size of the unknown angle?	

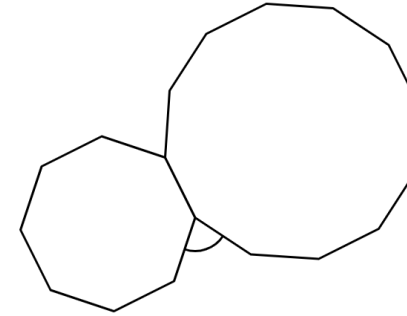
c)
Here is a regular decagon and a regular nonagon.



Work out the size of the marked angle.
You must show all your working.

What are the sizes of the known angles?	<p>Number of sides? 10 Number of triangles? $10 - 2 = 8$</p> <p>$8 \times 180^\circ = 1440^\circ$</p> <p>Each angle = $1440^\circ \div 10 = 144^\circ$</p>
What is the size of the unknown angle?	

d)
Here is a regular octagon and a regular dodecagon.



Work out the size of the marked angle.
You must show all your working.