Polygon angles – Maths–Pro Investigation

Use Maths–Pro or GeoGebra to draw any two triangles (ensure side lengths are all at least 4 cm). Measure each internal angle and complete the first table below.   Click here for GeoGebra file

Now measure angles and find the angle total for <u>any</u> two quadrilaterals (4 sides), pentagons (5 sides), hexagons (6 sides), heptagons (7 sides), octagons (8 sides), nonagons (9 sides) and decagons (10 sides).

Triangle 1 angles	Triangle 2 angles
(TOTAL)	(TOTAL)

Quad' 1 angles	Quad'l 2 angles
(TOTAL)	(TOTAL)

Pentagon 1 angles	Pentagon 2 angles
(TOTAL)	(TOTAL)

Hexagon 1 angles	Hexagon 2 angles
(TOTAL)	(TOTAL)

Heptagon 1 angles	Heptagon 2 angles
(TOTAL)	(TOTAL)

Octagon 1 angles	Octagon 2 angles
(TOTAL)	(TOTAL)

Nonagon 1 angles	Nonagon 2 angles
(TOTAL)	(TOTAL)

Decagon 1 angles	Decagon 2 angles
(TOTAL)	(TOTAL)

Can you come up with a rule for quickly finding the angle total in a polygon?

How could you predict the angle size in a regular polygon (one having equal sides)?