Interior and Exterior Angles of Regular Polygons

Instructions: Show your working and give all answers in degrees. Use these formulas:

Sum of interior angles = (n - 2) x 180

Exterior angle = 360 ÷ n

Interior angle = 180 - Exterior angle

1) Find the sum of interior angles of a pentagon.

[Diagram: Regular Pentagon]

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2) Find one interior angle of a regular hexagon.

[Diagram: Regular Hexagon]

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3) Find one exterior angle of a regular octagon.

[Diagram: Regular Octagon]

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4) The exterior angle of a regular polygon is 60. How many sides does the polygon have?

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5) The interior angle of a regular polygon is 140. Find the number of sides.

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6) A regular polygon has 18 sides. Find one interior and one exterior angle.

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7) Explain why the sum of all exterior angles in any polygon is always 360.

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8) The interior angle of a regular polygon is three times the exterior angle. Find the number of sides.

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9) A regular polygon has an exterior angle smaller than that of a decagon but larger than that of a dodecagon. Estimate its number of sides.

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10) A student drew a regular polygon and measured one interior angle as 120. What is the name of this polygon?

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