Angles in Regular Polygons

Calculate the sum of the interior angles of a polygon with:	Calculate the sum of the interior angles of a polygon with:
(a) 16 sides (b) 11 sides	(a) 16 sides (b) 11 sides
(c) 20 sides (d) 14 sides	(c) 20 sides (d) 14 sides
Calculate the size of the exterior and interior angles of a polygon with:	Calculate the size of the exterior and interior angles of a polygon with:
(a) 15 sides (b) 12 sides	(a) 15 sides (b) 12 sides
(c) 18 sides (d) 36 sides	(c) 18 sides (d) 36 sides
Calculate the number of sides of a polygon whose exterior angle is:	Calculate the number of sides of a polygon whose exterior angle is:
(a) 12° (b) 20°	(a) 12° (b) 20°
(c) 18° (d) 40°	(c) 18° (d) 40°
Calculate the number of sides of a polygon whose interior angle is:	Calculate the number of sides of a polygon whose interior angle is:
(a) 120° (b) 162°	(a) 120° (b) 162°
(c) 160° (d) 174°	(c) 160° (d) 174°
(a) Explain why it is not possible to have a polygon with an exterior angle of 23° .	(a) Explain why it is not possible to have a polygon with an exterior angle of 23°.
(b) Explain why it is not possible to have	(b) Explain why it is not possible to have
a polygon with an interior angle of 143° .	a polygon with an interior angle of $143^\circ.$
(a) Find the name of the regular polygon whose interior angle is three times that of its exterior angle.	(a) Find the name of the regular polygon whose interior angle is three times that of its exterior angle.
(b) The interior angle of a regular polygon is 11 times its exterior angle. How many sides does the regular polygon have?	(b) The interior angle of a regular polygon is 11 times its exterior angle. How many sides does the regular polygon have?

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