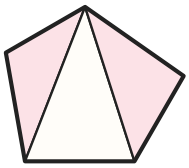
Sum of Interior Angles

1
A pentagon has 5 sides. Find the sum of its interior angles.

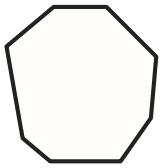


Sum = (5 − 2) × 180°

= 3 × 180°

Answer _____

2
An octagon has 8 sides. Find the sum of its interior angles.



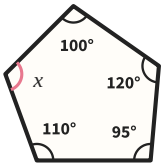
Sum = (8 − 2) × 180°

Answer _____

3
A polygon has 11 sides. Find the sum of its interior angles.

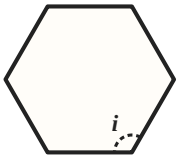
Answer _____

4
A pentagon is not regular. Four of its angles are 110°, 95°, 120° and 100°.
Find the size of angle x.



Answer _____

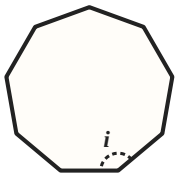
5
A regular hexagon has 6 sides. Find (a) the sum of the interior angles and (b) the interior angle i.



Sum = (6 − 2) × 180°

Answer (a) (b) _____

6
A regular nonagon has 9 sides. Find (a) the sum of the interior angles and (b) the interior angle i.



Answer (a) (b) _____

7
A regular polygon has 20 sides.
Find (a) the sum of its interior angles and (b) the size of each interior angle.

Answer (a) (b) _____

8
Show that each interior angle of a regular polygon with 24 sides is 165°.

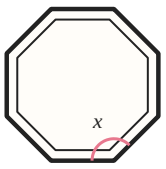
Answer _____

Sum of Interior Angles *further practice*

9
The interior angles of a polygon add up to 1440°. How many sides does the polygon have?

Answer _____

10
A road sign is a regular octagon.
Find the size of angle x, one of its interior angles.

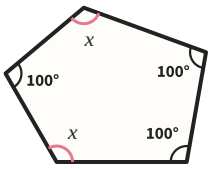


Answer _____

11
How much bigger is the sum of the interior angles of a decagon (10 sides) than of an octagon (8 sides)?

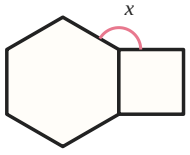
Answer _____

12
A pentagon has three angles of 100°. Its other two angles are equal.
Find the size of angle x.



Answer _____

13
A regular hexagon and a square share a side. Find the size of angle x.



Answer _____

14
Floor tiles are regular hexagons.
Three of them meet at a point.
Show that they fit with no gap.



Answer _____

15
Can a floor be tiled with regular pentagons, meeting at a point with no gap? Explain how you know.

Answer _____

16
Sam says the interior angles of an octagon add up to 8 × 180° = 1440°.
Explain Sam's mistake.

Answer _____