

Vauxhall High School

Mathematics

Grade 8

Worksheet March 30 – April 3

Name:







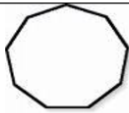
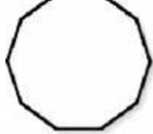
Class:

Date:

Sum of Interior Angles of Polygons Worksheet

Directions: The sum of interior angles of a triangle is 180° .

- Fix one vertex and make triangles by connecting to vertices of the polygon.
- Generate a rule to find the sum of interior angles of any polygon

Name of polygon	Figure	Number of sides	Number of triangles	Sum of interior angles
A Triangle		3		180
A Quadrilateral				
A Pentagon				
A Hexagon				
A Heptagon				
A Octagon				
A Nonagon				
A Decagon				
n-sided	XXXXXX			

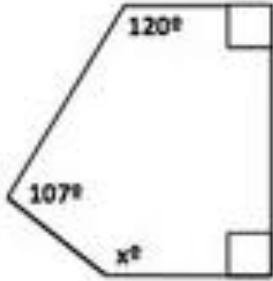
Write a rule to find the sum of interior angles for any polygon: _____

Exercise: Using the rule above, find the sum of interior angles of the given polygon

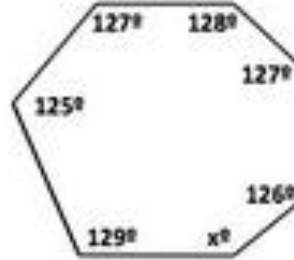
1. A quadrilateral _____
2. A pentagon _____
3. An octagon _____
4. A polygon with 11 sides _____
5. A polygon with 15 sides _____

Find the value of “ x “. Show all your working.

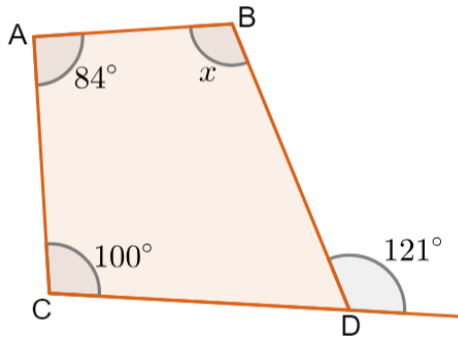
1.



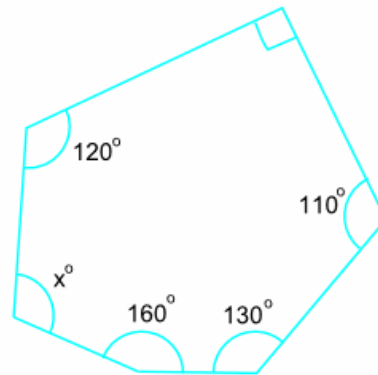
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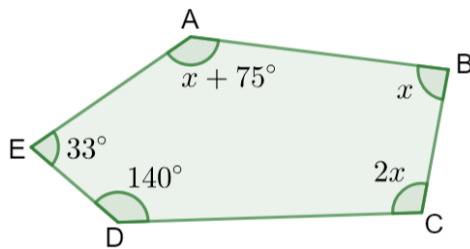
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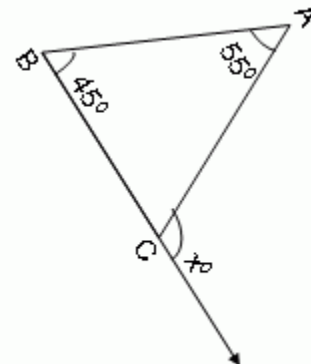
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5.

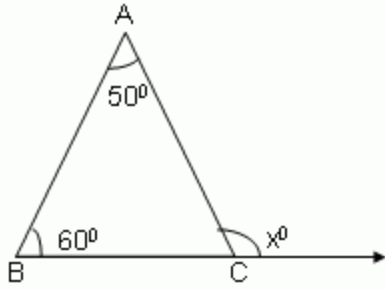


6.



Find the angle of x.

7.

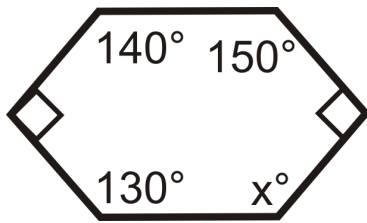


Find the angle of x.

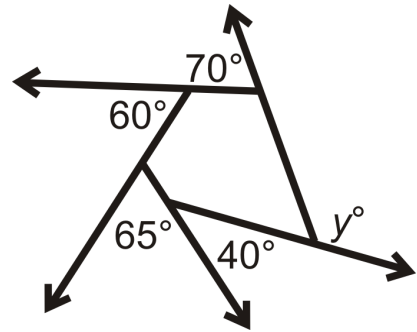
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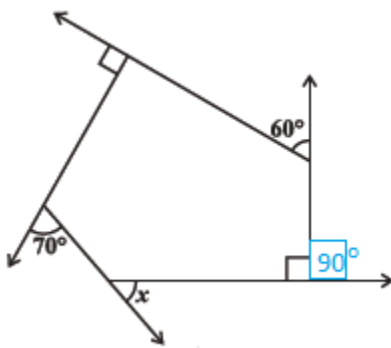
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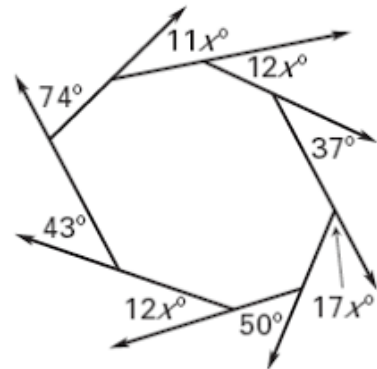
10.



11.

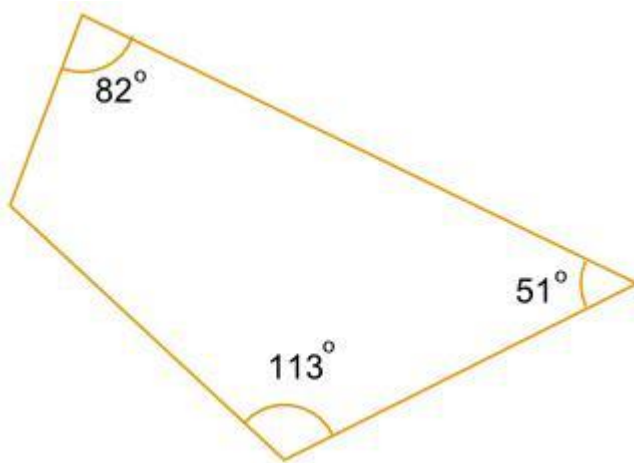


12.



13. What is the size of one interior angle of a regular twenty-sided polygon?

14. What is the fourth interior angle of the quadrilateral?



15. Each of the interior angles of a regular polygon is 156° . How many sides does the polygon have?

16. What is the sum of the exterior angles of an octagon?

17. What is the size of one exterior angle of a regular heptagon (seven-sided polygon)?

18. One exterior angle of a regular polygon is 14.4° . How many sides does it have?

19. One exterior angle of a regular polygon is 22.5° . How many sides does it have?

20. What is the size of one exterior angle of a regular dodecagon (twelve-sided polygon)?