

6-1 Solve It!



You don't need to draw all the diagonals from every vertex.

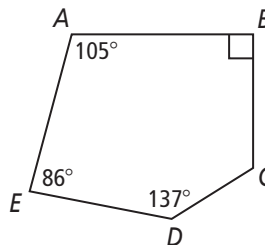


Getting Ready!

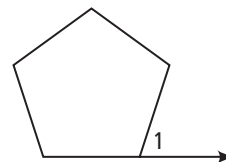
Sketch a convex pentagon, hexagon, and heptagon. For each figure, draw all the diagonals you can from one vertex. What conjecture can you make about the relationship between the number of sides of a polygon and the number of triangles that its diagonals form?

6-1 Lesson Quiz

1. What is the sum of the angle measures of a 14-gon?
2. What is the measure of each angle of a regular pentagon?
3. What is $m\angle C$ in pentagon $ABCDE$?



4. What is the measure of an exterior angle of a regular pentagon?

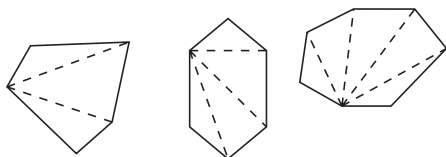


5. **Do you UNDERSTAND?** How many sides does a regular polygon have if each exterior angle is 24° ? How do you know?

Answers

Solve It!

Answers may vary. Sample:



The number of \triangle formed by the diagonals is 2 less than the number of sides of the polygon.

Lesson Quiz

1. 2160
2. 108
3. 122
4. 72
5. The sum of the exterior angles of any polygon is 360° , so the number of sides is $\frac{360}{24}$ or 15.