

Name _____

Date _____

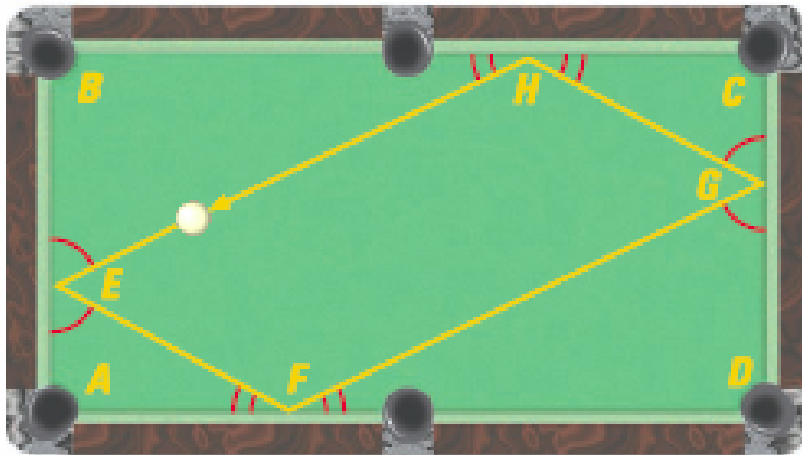
Open-ended Task: Geometry Chapter 6

Directions:

To receive full credit you must do the following:

1. Show OR describe each step of your work, even if you did it in your head (“mental math”) or used a calculator,
AND
2. Write an explanation stating the mathematical reason(s) why you chose each of your steps.

Question: Suppose you shoot a pool ball as shown below and it rolls back to where it started. The ball bounces off each wall at the same angle at which it hits the wall.



A. The ball hits the first wall at an angle of 63° . So $m\angle AEF = m\angle BEH = 63^\circ$
Explain why $m\angle AFE = 27^\circ$.

B. Explain why $m\angle FGD = 63^\circ$.

C. What is the $m\angle GHC$?

D. What is the $m\angle EHB$?

E. Find the measure of each interior angle of EFGH.
What kind of quadrilateral is EFGH and explain why.