

12 January 2016

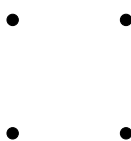
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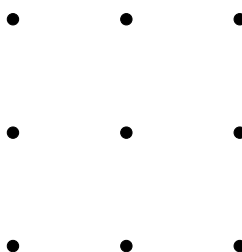
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1. What are the names of the members of your group?

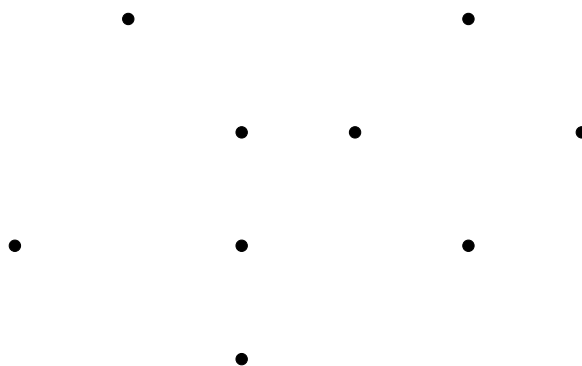
2. (a) How many different triangles can you form with the following four dots?



(b) How many different triangles can you form with the following nine dots?



(c) How many different triangles can you form with the following nine dots?



3. Share with your group : What is your current major of study, what you would like to achieve in ESP, and what do you see yourself doing after college? What you think is most important about a college education? Write down your favorite responses.

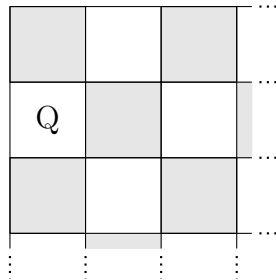
4. Consider the following curves and find their points of intersection.

(a)  $y = 4x + 1$  and  $y = -5x + 1$

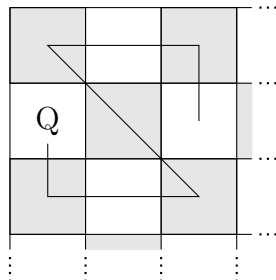
(b)  $y = x^2 - x - 6$  and  $y = 2x^2 - 6x - 6$

(c)  $y = 4x^3 - 5x + 8$  and  $y = 4x^3 + 5x^2 + 2$

5. Consider a corner of a chessboard and the queen, located at “Q”.



Using only legal moves, the queen from that spot can pass through all 9 squares in 5 moves, such as in the following case:



Is it possible for the queen from that spot to pass through all 9 squares with only 4 legal moves? If yes, how? If no, why?