**1) How many pennies could you put on the Golden Gate Bridge without any of them overlapping? For this question, please write out each step in your thought process.**

1. Find length and width of the Golden Gate Bridge roadway and sidewalk.
   1. Roadway - 8,981 X 62 feet
   2. Sidewalk – 8,981 X 10 feet
2. Find diameter and thickness of a penny.
   1. Diameter = 0.75 inches
   2. Thickness = 0.061 inches
3. Find number of pennies to fit the width of the roadway and width of the sidewalk if laid flat. Then multiply by number that fit length.
   1. 8981 ft = 107772 in
   2. 10 ft = 120 in
   3. 62 ft = 744 in
   4. 107772/0.75 = 143696 pennies in length
   5. 744/0.75 = 992 pennies in width of roadway
   6. 120/0.75 = 160 pennies in width of sidewalk
   7. 143696 x 992 = 142546432 pennies on roadway
   8. 143696 x 160 = 22991360 pennies on sidewalk
4. Total number of pennies equals 142,546,432 + 22,991,360 = 165,537,792 total pennies laid flat.
5. (BONUS) If you were able to stand a penny on its side one next to another…
   1. 107772/0.061 = 1766754 pennies in length
   2. 744/0.061 = 12196 pennies in width of roadway
   3. 120/0.061 = 1967 pennies in width of sidewalk
   4. 1766754 x 12196 = 21547331784 pennies on roadway
   5. 1766754 x 1967 = 3475205118 pennies on sidewalk
   6. Total pennies laid standing up = 21,547,331,784 + 3,475,205,118 = 25,022,536,902

Sources:

<http://www.goldengatebridge.org/research/factsGGBDesign.php>

<http://en.wikipedia.org/wiki/Penny_(United_States_coin)>

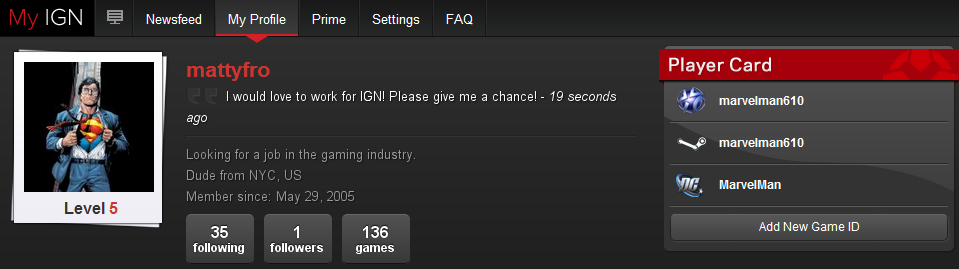
**2) Our images have a ratio of 16:9, and our design layouts have 12 pixel wide increments (there are no limits on height). Give examples of three image sizes that would have the correct ratio and would fit the design layout.**

Take any number divisible by 12 (12 24 36 48 60 72 84 96…) and multiply 16 for width and 9 for height.

1. 960x540 is 16:9 ratio and 960 will fit the design layout because 12 goes into 960 evenly
2. 576x324
3. 1344x756

**3) What is the minimum number of moves required for a knight to cover the entire chess board? Write a program to prove it. Provide a graph with the move number on the x axis and the number of squares covered on the y axis.**

I am sorry to admit I tried using a Breadth First search unsuccessfully. You can see my work in CodeFoo.sln

**4) Creatively prove to us that you meet our value – Fire – that this would be more than just a job to you, and that you are passionate about us**.

I have an incredible passion for video games, so much so that I went to school to learn how to make them. Though I don’t know much about building websites or managing databases, I am extremely interested and would love the opportunity to learn how. I have been reading IGN for over 6 years and consider it the only place to get my video game news, previews, and reviews. I would love the chance to contribute to IGN and to also expand my coding skillset.