

Mathematical Puzzles, Games and Other  
Diversions  
Day 8

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February 13, 2020

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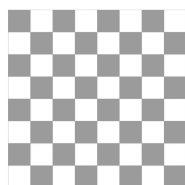
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The Mutilated Chessboard Revisited



Suppose we remove one non-corner square of each color.  
Can we tile the rest of the board with  $2 \times 1$  dominoes?

Yes. Always.

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Poker Hand Rankings

- How many possible 5-card poker hands are there?

$$\binom{52}{5} = 2,598,960$$

HAND RANKINGS				
1 Royal Flush 10 J Q K A ♠ ♠ ♠ ♠ ♠	2 Straight Flush 5 6 7 8 9 ♥ ♥ ♥ ♥ ♥	3 Four Of A Kind K 3 3 3 3 ♠ ♠ ♠ ♠ ♥	4 Full House J J J K K ♠ ♠ ♠ ♠ ♥	5 Flush 2 4 5 9 K ♥ ♥ ♥ ♥ ♥
6 Straight A 2 3 4 5 ♠ ♠ ♠ ♠ ♠	7 Three Of A Kind 4 5 7 7 7 ♠ ♠ ♥ ♥ ♥	8 Two Pair 4 9 9 K K ♠ ♠ ♥ ♥ ♥	9 One Pair 3 Q K 10 10 ♠ ♠ ♥ ♥ ♠	10 High Card 2 4 8 Q K ♥ ♥ ♥ ♥ ♠

- How many possible ways are there to get each of these hands?

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