A Deck of Cards

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A Standard Deck of Cards
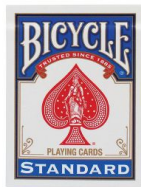

Figure 1 : Standard Deck

Dimensions: 65 mm by 93 mm by 18 mm

$$volume = 0.000108810 \times m^3 \tag{1}$$

Original Order of Deck

Original Order as dealt from this view 🂠

♥ A, ♥ 2, ♥ 3, ♥ 4, ♥ 5, ♥ 6, ♥ 7, ♥ 8, ♥ 9, ♥ 10, ♥ J, ♥ Q, ♥ K

♣ A, ♣ 2, ♣ 3, ♣ 4, ♣ 5, ♣ 6, ♣ 7, ♣ 8, ♣ 9, ♣ 10, ♣ J, ♣ Q, ♣ K

♦ K, ♦ Q, ♦ J, ♦ 10, ♦ 9, ♦ 8, ♦ 7, ♦ 6, ♦ 5, ♦ 4, ♦ 3, ♦ 2, ♦ A

♠ K, ♠ Q, ♠ J, ♠ 10, ♠ 9, ♠ 8, ♠ 7, ♠ 6, ♠ 5, ♠ 4, ♠ 3, ♠ 2, ♠ A

Figure 2 : Original Order

Where I learned of The Game Of Eleusis

From January 1957 through December 1980, Martin Gardner's "Mathematical Games" column was a monthly feature in Scientific American magazine. From Jan 1981 through July 1983, 25 "Metamagical Themas (an anagram of "Mathematical Games")" by Douglas Hofstadter alternated with Gardner's column.

What is the appropriate number of decks needed to display all possible deck orders?

How much space would be needed to display this number of decks of cards?

Do the calculation before checking the next page.

Really, please do the calculation before checking the next page.

$$52! = 8.06581751709 \times 10^{67} \qquad (2)$$

decks of cards would fill

$$8.77641604 \times 10^{63} m^3 \qquad (3)$$

of space.

$52! = 8.06581751709 \times 10^{67}$ decks of cards would fill $8.77641604 \times 10^{63} m^3$ of space.

The Milky Way fills a volume of space equal to $7.431063687726847 \times 10^{60} m^3$.

$52!$ decks of cards would fill 1,180 Milky Way Galaxies.