

Dice Dice Baby!

Presented by Joe M. Turner for G4G COM

October 21, 2020

One Die: "The Thirteenth Turn," Martin Gardner, The New Phoenix, 1964

- Have a die rolled and set on a traced square on a piece of paper
- Look at 3 sides and add them up; remember if odd or even (parity)
- Spectator gives twelve $\frac{1}{4}$ -turns, then can choose whether or not to give a 13th turn
- Magician then looks at die and can tell whether the 13th turn was made
- Secret: The parity changes with every $\frac{1}{4}$ -turn; if the parity is different at the end, then an odd number of turns was made. The use of 12 and 13 is arbitrary.

One Die: "The Moon Die Mystery," Bob Hummer, in *Bob Hummer's Collected Secrets* by Karl Fulves, 1980 (Trick also appears as "Mental Die" in *Fulves' Self-Working Table Magic*, 1981)

- Spectator thinks of a number on a die
- Spectator places a die on the table in any orientation such that they can see three of the sides
- Performer asks if spectator can see the number they are thinking of; spectator decides silently
- If yes, the die is rotated $\frac{1}{4}$ turn clockwise on the table; if no, the die is rotated $\frac{1}{4}$ flip forward and to the right
- This is repeated 3 times, then a hat or covering is placed over the die.
- Performer asks the spectator if they ever said "no" then makes a secret adjustment under the hat
- Spectator is asked their number; hat is removed; chosen number is on top
- Secret: If the spectator answered "yes" all 3 times, and never said "no," then the chosen number is on top. Reach under the hat and pretend to make an adjustment but make no adjustment.
- If they ever said no, the chosen number is on the face away and to the left of the spectator; make a $\frac{1}{4}$ turn to put it on top.

Two Dice: "A Mathematical Dice Trick," Martin Gardner, The Magic Magazine, 1975

- Have two dice rolled and stacked
- Spectator add number on top and numbers on touching faces
- Then take the top die, roll again, add top number to total
- Then turn both dice over, add bottom numbers to total
- Always comes out 21 as you are just adding top and bottom of 3 dice in a unique sequence
- To change it up, have spectator add a digit of your choice to the sequence; just change your prediction.

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Three Dice: “Odd and Even Dice,” Martin Gardner, The Pallbearers Review, July 1968

- Extension of “The Thirteenth Turn” trick with one die described above
- Have three traced squares and have three dice rolled then placed on squares
- Performer remembers parity of each die (e.g., odd-odd-even)
- Spectator mentally assigns each die an identity (Thurston, Blackstone, or Houdini)
- Spectator gives $\frac{1}{4}$ -turn to each die for each letter of the assigned name while magician looks away
- When complete, magician identifies the Houdini die
- Can be used with any 3 words
 - 2 with even number of letters and one odd; you can identify die assigned to the odd word
 - 2 with an odd number of letters and one even; you identify die assigned to the even word

BONUS with Five Dice: “Petals Around the Rose,” puzzle/game, origin unknown

- Announce the rules:
 - The name of the game is Petals Around the Rose, and that name is significant.
 - They can also be told that every answer is zero or an even number.
 - No analyzing out loud; you can be told the answer for each roll, but keep your hypotheses to yourself.
- Roll the 5 dice, announce the answer each time.
- Details and online simulator: <http://www.borrett.id.au/computing/petals-j.htm>
- See also: German version Eislöcher, Eisbären und Fische (ice holes, polar bears, and fish) <http://bit.ly/eisbaren> (page is in German)