ELEUSIS *EXPRESS*

See the original Eleusis by Robert Abbott: logicmazes.com/games/eleusis/
Express variation by John Golden: gathering4gardner.org/remembering-robert-abbott/
and at logicmazes.com/games/eleusis/express.html.
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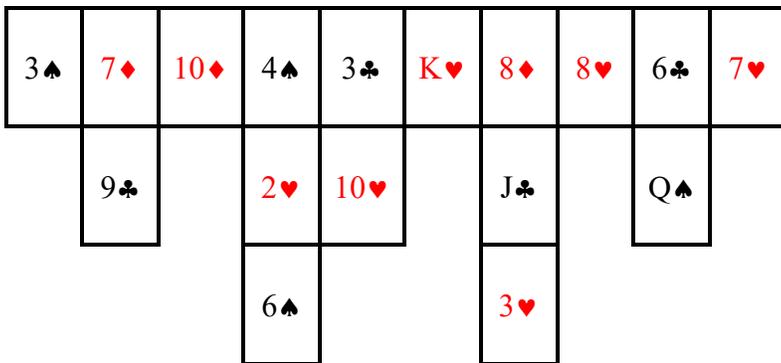
Eleusis is a card game of inductive reasoning, invented by Robert Abbott in 1956, introduced by Martin Gardner in his Mathematical Games column in the June 1959 **Scientific American**, and in 1963 it appeared in **Abbott's New Card Games**. It was later revised and extended by Abbott, and Gardner introduced Abbott's new version in the October 1977 **Scientific American**. Express is a considerable simplification of that game. Robert pronounced the name "Eleusis" as "el-you-sis."

The idea: One player has a secret rule for which cards can be played. *Example*: a card has to be a different color than the card before it. Other players lay down cards they think might fit the pattern. If a player lays down a card that works, they can try to guess the rule. Determining the rule is the ultimate goal.

Number of players: Eleusis Express is for three or more players. Probably best with four or five. Feel free to add decks for larger games of six or more people – the card backs don't matter.

The stock: An ace is low, and has the number value 1. Jack=11, Queen =12, and King=13.

Object: A game consists of one or more rounds (hands of play). A different player is chosen as the dealer/rule maker of each new round. All plays are made to a central layout that grows as the round progresses. An example is shown here. A layout consists of a horizontal *mainline* of cards that follow a certain pattern. Below this are vertical *sidelines* of cards that did not work. The *sidelines* are incorrect cards for the next play; not for the current play. Players do well by getting rid of the cards in their hands. They get rid of cards by playing ones that are accepted on the mainline of the layout. The dealer/rule maker of a round does not play a hand. (Their score is based on the scores of the other players, if you're keeping score.)

3♠	7♦	10♦	4♠	3♣	K♥	8♦	8♥	6♣	7♥
	9♣		2♥	10♥		J♣		Q♠	
			6♠			3♥			

In this example, the card flipped over was the 3♠, and the 7♦ was a correct play. For the next play, the 9♣ was incorrect but the 10♦ worked. The 4♠ worked to follow 10♦. For the next play, the 2♥ and the 6♠ were incorrect; then 3♣ did work. What might the rule be? As you think, use both the cards that fit the pattern and those that don't!

The secret rule: Each round has a different rule that determines which cards are accepted on the mainline and which are rejected. At the beginning of a round, no player knows this rule except the dealer. A rule should allow for several cards to be played at any

given time, but not too many. *Examples*: Too restrictive – the next card must be one higher and a different suit. Too permissive – the next card must be a different number than the previous card. A rough rule of thumb is ¼ to ½ or so of the deck should be playable at any given moment. Every card should be playable after some previous card. Avoid exceptions or wild cards, like "face cards are always right" or "an ace can be high or low." Worth noting: whatever the rule, it will often be harder to guess than one might expect. The rule in the example is "If black, play odd; if red, play even."

Set up: The dealer chooses or writes down their secret rule. After shuffling, they deal seven cards to each player except themselves. Flip over the top card of the deck. Players can play with hands open or hidden. (Open is better for people learning the game.)

Play: The player to the left of the dealer chooses a card to try to play. The dealer says whether it's in or out. If in, it goes next on the mainline. If out, it goes below the last card on a sideline. If a player plays a card that's out, they draw another card.
　　If a player thinks they have no play, they can show their hand. The dealer checks – if the player is right, they can play one of their cards out on the sideline. If the player is wrong, the dealer plays one of their cards on the mainline and they draw a card.
　　After a correct play on the mainline (or a correct 'no play'), the player can try to guess the rule. A correct guess of a rule equivalent to the dealer's rule ends the hand. On an incorrect guess, the player draws a card and play continues.

Ending the hand: After a player guesses a rule, the dealer confirms if they're right or wrong. If they're right, the hand is over. (Dealer: try not to give clues when judging a rule!) The dealer must think if the proposed rule is *equivalent* to theirs; that is, whether it would have the same effect for each card. Equivalent rules will often be worded differently. If the rule guess is incorrect, the player draws a card, and play continues. If the guess is correct, the hand is over. It's only polite for the player to share how they guessed the rule. (Note that if players are keeping score, a player might want to keep going, even after they know the rule, to get rid of more cards.) If the rule is never guessed, the hand ends after the last card is drawn. If someone gets to zero cards in hand, they have to make a guess of the rule.

Ending the game: If time allows, everyone gets to be the dealer the same number of times. When the last person has had their last turn playing dealer, reminisce about the clever rules and great feats of inference. If playing for points, then total scores to determine the winner.

OPTIONAL - **Scoring:** Players get a number of points for how many cards are left in their hand. If a player guessed the rule, they get an extra -3. The dealer scores the same as the second lowest player. Low score wins at the end of the game. Example: at the end of a hand, Bob has 3 cards and scores 3. Ted has 6 cards and scores 6. Alice has 7 cards, guessed the rule, and scores 4. As Carol was the dealer, she scores 4 also, since it's the second lowest score. Scored games should have each player as the dealer/rule maker the same number of times. Lowest score wins the game.