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Bitcoin mining is the process through which new bitcoins are created and transactions are added to the blockchain. It involves solving complex mathematical problems that validate and secure transactions on the Bitcoin network. Here's a breakdown of the key aspects of Bitcoin mining

Transaction Validation







Proof-of-Work



This puzzle is Miners compete to solve a intentionally cryptographic puzzle, a difficult and requires process known as proof-ofsubstantial computational work. power to solve.

Adding a Block to the Blockchain



The first miner to solve the puzzle gets the right to add a new block of transactions to the blockchain.

Blockchain

This block includes the solution to the puzzle, a reference to the previous block, and the transactions that have occurred since the last block.

Reward



- As a reward for their efforts, the miner who successfully adds a block is granted a certain number of newly created bitcoins. This is the primary way in which new bitcoins are introduced into circulation.
- In addition to the newly created bitcoins, miners may also receive transaction fees from the transactions included in the block.



Difficulty Adjustment



The Bitcoin network automatically adjusts the difficulty of the cryptographic puzzles approximately every two weeks to maintain a steady rate of block creation, regardless of changes in the total computational power of the network.

Decentralization



The decentralized nature of Bitcoin mining ensures that no single entity or group controls the creation of new bitcoins or the validation of transactions.

Mining helps secure the network by making it computationally expensive to manipulate the transaction history.



It's important to note that while Bitcoin mining is a critical process for the functioning of the network, it requires specialized hardware and consumes a significant amount of electricity. Over time, the reward for mining decreases, following a predetermined schedule, and is halved approximately every four years in an event known as "halving."



THANK FOR WATCHING

