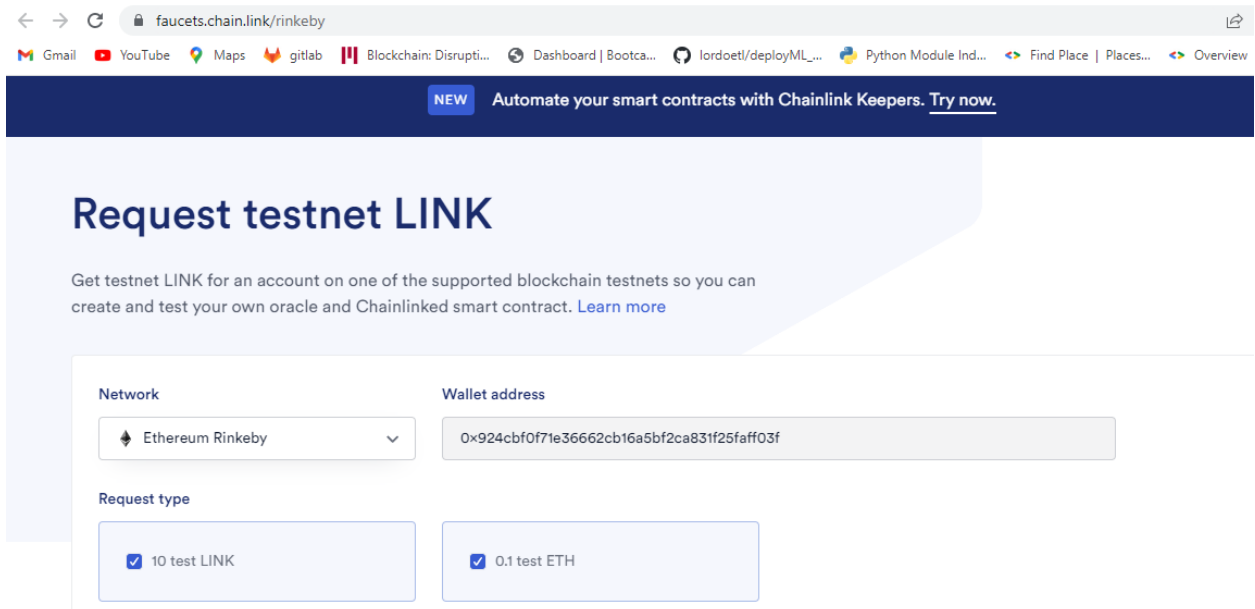


## Module 1 - Assignment Questions


*\*Adjust the response space according to what you need.*

*\* For answers that include data to be answered via Metamask or Etherscan, include a screenshot, of the full screen, so that the facilitator can read the data on the screen, including the URL address of the web page.*

1. What is the address of your new account? In addition to giving the answer include a screenshot. Also include a screenshot so that the facilitator can see, in the sale of the "Rinkeby Faucet", the URL of the Tweet or Facebook post that contains your wallet account address.



The screenshot shows a web browser window with the address bar displaying 'faucets.chain.link/rinkeby'. The page has a dark blue header with a 'NEW' badge and the text 'Automate your smart contracts with Chainlink Keepers. Try now.' Below the header, the main heading is 'Request testnet LINK'. Underneath, it says 'Get testnet LINK for an account on one of the supported blockchain testnets so you can create and test your own oracle and Chainlinked smart contract. [Learn more](#)'. The form contains the following fields:






Network	Wallet address
<div> Ethereum Rinkeby</div>	<div>0x924cbf0f71e36662cb16a5bf2ca831f25faff03f</div>

Below the form, there is a 'Request type' section with two options:

Request type
<input checked="" type="checkbox"/> 10 test LINK
<input checked="" type="checkbox"/> 0.1 test ETH

Overview State

[ This is a Rinkeby **Testnet** transaction only ]

② Transaction Hash:	0xe6bdeab20f2b8f1a4a3534e1f60f33c7f2fe9040533af343d707e815c83a3c73 
② Status:	 Success
② Block:	10609569  102 Block Confirmations
② Timestamp:	⌚ 25 mins ago (May-03-2022 03:28:07 AM +UTC)
② From:	0xa7a82dd06901f29ab14af63faf3358ad101724a8 
② To:	0x924cbf0f71e36662cb16a5bf2ca831f25fa03f 
② Value:	0.1 Ether (\$0.00)

2. What is the hexadecimal code of your name? In addition to giving the answer, include a screenshot.

496e646572

# ASCII to Hex

## ...and other free text conversion

### Text (ASCII / ANSI)

Inder

**Convert**

**Highlight Text**

### Hexadecimal

49 6e 64 65 72

3. As far as you can see, which block was last mined? In addition to giving the answer, include a screenshot.

10609704

rinkeby.etherscan.io/blocks

Etherscan Rinkeby Testnet Network

Search by Address / Txn Hash / Block / Token / Ens

Home Blockchain Tokens Misc Rinkeby

Network Utilization: 60.7% Burnt Fees: 17,401.87 ETH

Block #10609680 to #10609704 (Total of 10,609,705 blocks)

Block	Age	Txn	Uncles	Miner	Gas Used	Gas Limit	Base Fee	Reward	Burnt Fees (ETH)
10609704	24 secs ago	45	0	0x7ffc57839b00206d1ad...	7,532,049 (25.11%, -50%)	29,999,972	1.47 Gwei	0.0137 Ether	0.011088 (44.72%)
10609703	39 secs ago	68	0	0xd6ae8250b8348c9484...	28,235,199 (94.21%, +88%)	29,970,705	1.32 Gwei	0.04731 Ether	0.037428 (44.17%)
10609702	54 secs ago	71	0	0x42eb768f2244c8811c6...	7,326,904 (24.42%, -51%)	30,000,000	1.41 Gwei	0.0192 Ether	0.010376 (35.07%)
10609701	1 min ago	32	0	0x6dc0c0be4c8b2dfe750...	28,296,132 (94.32%, +89%)	30,000,000	1.27 Gwei	0.06919 Ether	0.036074 (34.27%)

4. How many transactions does block 7278837 have? In addition to giving the answer, include a screenshot.

12 transactions

Etherscan Rinkeby Testnet Network

Search by Address / Txn Hash / Block / Token / Ens

Home Blockchain Tokens

Block #7278837

Overview

[ This is a Rinkeby Testnet block only ]

Block Height:	7278837 < >
Timestamp:	581 days 3 hrs ago (Sep-29-2020 12:19:44 AM +UTC)
Transactions:	12 transactions and 10 contract internal transactions in this block
Mined by:	0x42eb768f2244c8811c63729a21a3569731535f06 in 15 secs
Block Reward:	0 Ether
Uncles Reward:	0

5. How many "contract transactions" does block 7278837 have? In addition to giving the answer, include a screenshot.

10 contract internal transactions



















































## Contract Internal Transactions

For Block 7278837

Note: There is limited (Beta) support for tracking Internal Transactions on Rinkeby.

First < Page 1 of 1 > Last

A total of 10 internal transactions found

Block	Age	Parent Txn Hash	Type	From	To	Value
7278837	581 days 3 hrs ago	 0xa2d4b6f8f67d5402d91... 	delegatecall	 0x1c5122bfeba106eea3...	  0x456c1f0486ac0dd99d...	0 Ether
		 0xa2d4b6f8f67d5402d91... 	call	 0xd216153c06e857cd7f...	  0x1c5122bfeba106eea3...	0 Ether
		 0xa2d4b6f8f67d5402d91... 	delegatecall	 0x1c5122bfeba106eea3...	  0x456c1f0486ac0dd99d...	0 Ether
		 0xa2d4b6f8f67d5402d91... 	call	 0xd216153c06e857cd7f...	  0x1c5122bfeba106eea3...	0 Ether
		 0xa2d4b6f8f67d5402d91... 	delegatecall	 0x1c5122bfeba106eea3...	  0x456c1f0486ac0dd99d...	0 Ether
		 0xa2d4b6f8f67d5402d91... 	call	 0xd216153c06e857cd7f...	  0x1c5122bfeba106eea3...	0 Ether
		 0xa2d4b6f8f67d5402d91... 	call	 0xd216153c06e857cd7f...	  0xd216153c06e857cd7f...	0 Ether
		 0xa2d4b6f8f67d5402d91... 	delegatecall	 0x1c5122bfeba106eea3...	  0x456c1f0486ac0dd99d...	0 Ether
		 0xa2d4b6f8f67d5402d91... 	staticcall	 0xd216153c06e857cd7f...	  0x1c5122bfeba106eea3...	0 Ether
		 0x19cdd1045f2108e90d... 	create	 0x39acd5b9c5f9ce9e002...	  0x4915a69eddf054790...	0 Ether

6. What is the "difficulty" of block 7278837? In addition to giving the answer, include a screenshot.

Difficulty level is 1

## Block #7278837

### Overview

[ This is a Rinkeby **Testnet** block only ]

Block Height:	7278837 < >
Timestamp:	581 days 3 hrs ago (Sep-29-2020 12:19:44 AM +UTC)
Transactions:	12 transactions and 10 contract internal transactions in this block
Mined by:	0x42eb768f2244c8811c63729a21a3569731535f06 in 15 secs
Block Reward:	0 Ether
Uncles Reward:	0
Difficulty:	1

7. What is the address of the miner who has mined block 7278837? In addition to giving the answer, include a screenshot.

0x42EB768f2244C8811C63729A21A3569731535f06



Rinkeby Testnet Network

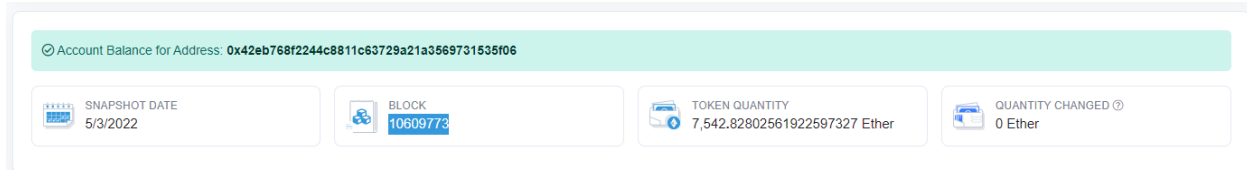
All Filters v Se

Address 0x42EB768f2244C8811C63729A21A3569731535f06

8. On the account you are researching at Etherscan, what can you notice about the owner? Based on data such as whether or not the account has a name, how much Ether it has, or what transactions it has been involved in, do you think the account belongs to a mining pool or an

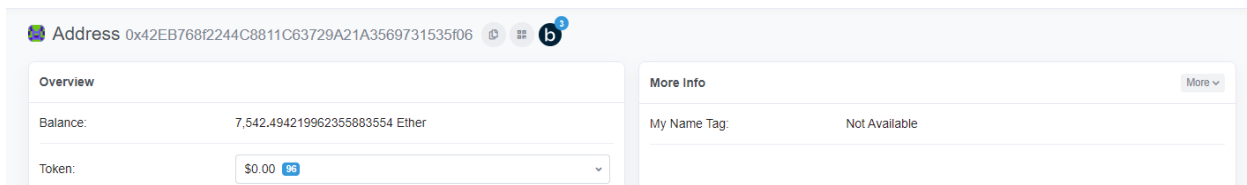
individual miner? What other predictions can be made about the account? In addition to giving the answer, include a screenshot.

Owner is no name its account balance is 7,542.82802561922597327 Ether and last block is 10609773



Account Balance for Address: 0x42eb768f2244c8811c63729a21a3569731535f06

SNAPSHOT DATE 5/3/2022	BLOCK 10609773	TOKEN QUANTITY 7,542.82802561922597327 Ether	QUANTITY CHANGED ⓘ 0 Ether
---------------------------	-------------------	---	-------------------------------

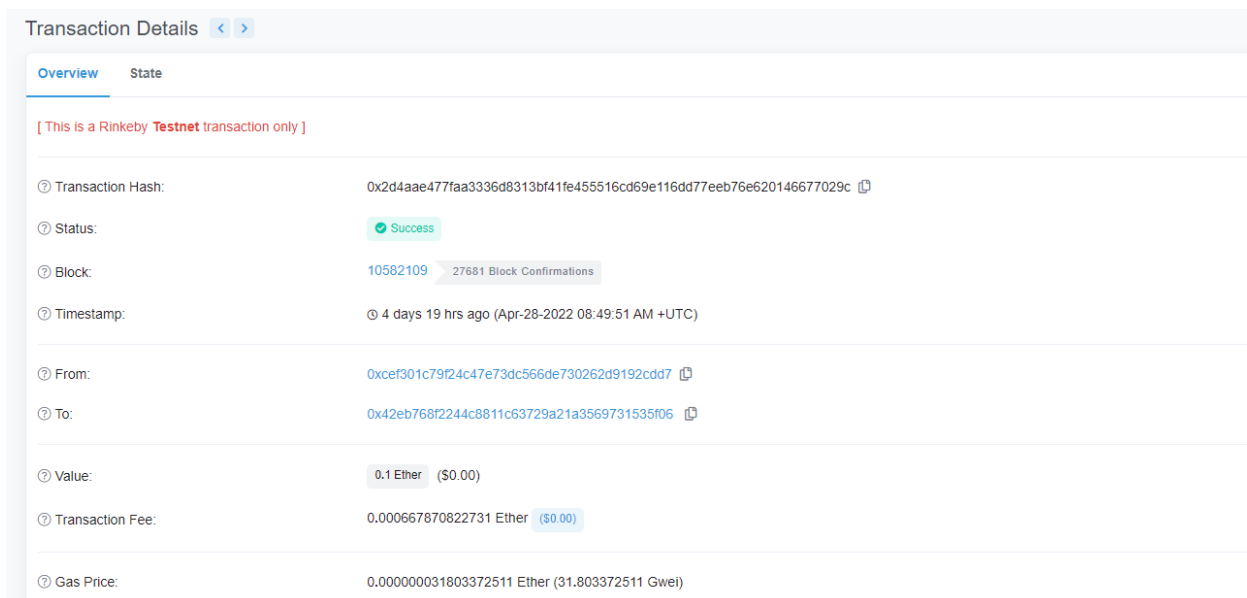


Address 0x42EB768f2244C8811C63729A21A3569731535f06

<b>Overview</b>	<b>More Info</b>
Balance: 7,542.494219962355883554 Ether Token: \$0.00	My Name Tag: Not Available

9. In the transaction you have opened, what is the hash of the transaction? In addition to giving the answer, include a screenshot.

0x2d4aae477faa3336d8313bf41fe455516cd69e116dd77eeb76e620146677029c



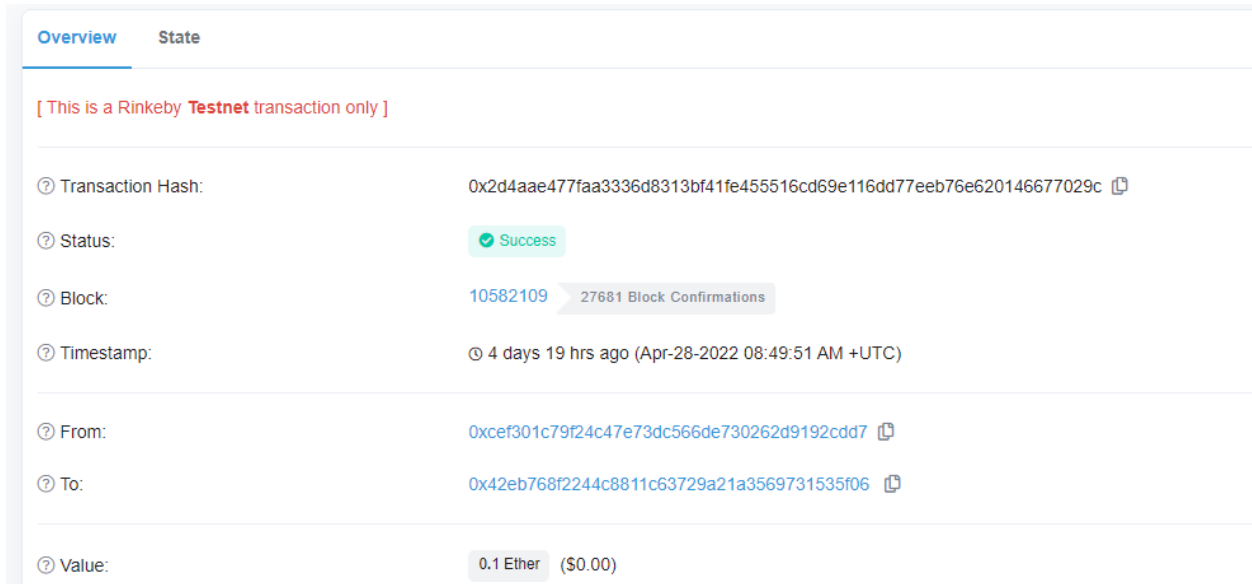
Transaction Details

[ This is a Rinkeby Testnet transaction only ]

Transaction Hash:	0x2d4aae477faa3336d8313bf41fe455516cd69e116dd77eeb76e620146677029c
Status:	Success
Block:	10582109 27681 Block Confirmations
Timestamp:	4 days 19 hrs ago (Apr-28-2022 08:49:51 AM +UTC)
From:	0xcef301c79f24c47e73dc566de730262d9192cdd7
To:	0x42eb768f2244c8811c63729a21a3569731535f06
Value:	0.1 Ether (\$0.00)
Transaction Fee:	0.000667870822731 Ether (\$0.00)
Gas Price:	0.000000031803372511 Ether (31.803372511 Gwei)

10. In the transaction you have opened, how much Ether has been transferred? In addition to giving the answer, include a screenshot.

0.1 ether

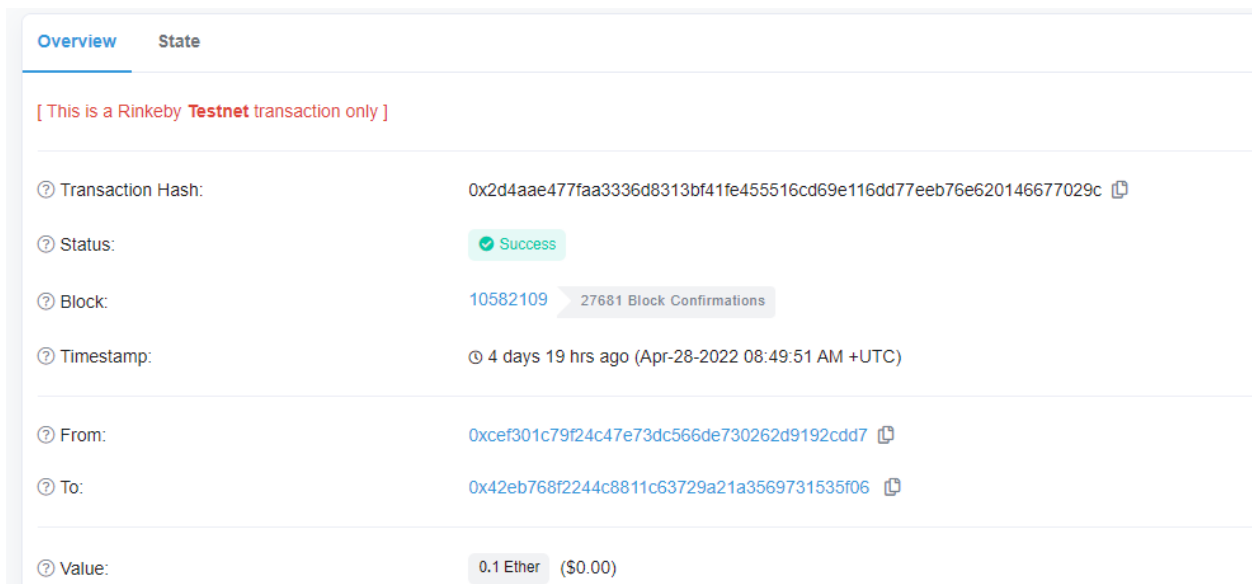


The screenshot displays a transaction overview for a Rinkeby Testnet transaction. The interface includes tabs for 'Overview' and 'State'. A red warning message states: '[ This is a Rinkeby Testnet transaction only ]'. The transaction details are as follows:

Field	Value
Transaction Hash	0x2d4aae477faa3336d8313bf41fe455516cd69e116dd77eeb76e620146677029c
Status	Success
Block	10582109 (27681 Block Confirmations)
Timestamp	4 days 19 hrs ago (Apr-28-2022 08:49:51 AM +UTC)
From	0xcef301c79f24c47e73dc566de730262d9192cdd7
To	0x42eb768f2244c8811c63729a21a3569731535f06
Value	0.1 Ether (\$0.00)

11. What is the value of this Ether in US dollars? In addition to giving the answer, include a screenshot.

0.00USD



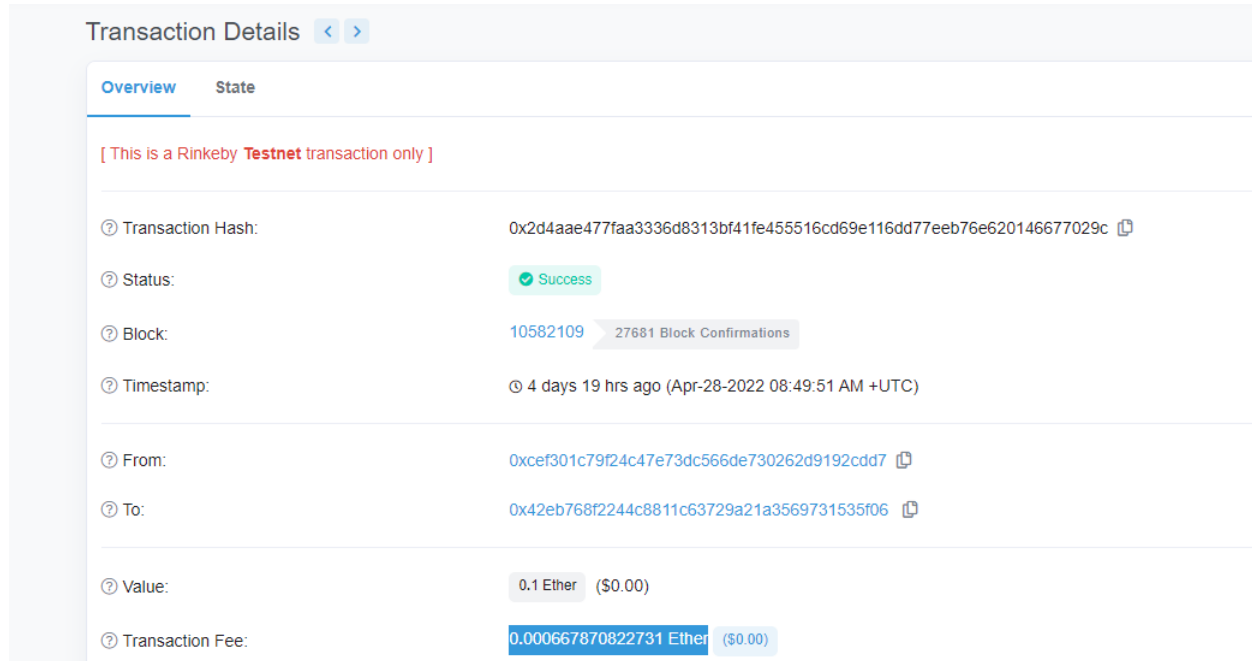
This screenshot is identical to the one above, showing the same transaction overview for a Rinkeby Testnet transaction. The details are:

Field	Value
Transaction Hash	0x2d4aae477faa3336d8313bf41fe455516cd69e116dd77eeb76e620146677029c
Status	Success
Block	10582109 (27681 Block Confirmations)
Timestamp	4 days 19 hrs ago (Apr-28-2022 08:49:51 AM +UTC)
From	0xcef301c79f24c47e73dc566de730262d9192cdd7
To	0x42eb768f2244c8811c63729a21a3569731535f06
Value	0.1 Ether (\$0.00)



12. How much was the transaction fee for this transaction (in Ether)? In addition to giving the answer, include a screenshot.

0.000667870822731 Ether



The screenshot shows the 'Transaction Details' page for a Rinkeby Testnet transaction. The 'Overview' tab is selected. The transaction is confirmed as 'Success' with 27681 block confirmations. The transaction fee is highlighted in blue and matches the answer provided in the text above.

Transaction Details	
Overview	State
[ This is a Rinkeby Testnet transaction only ]	
Transaction Hash:	0x2d4aae477faa3336d8313bf41fe455516cd69e116dd77eeb76e620146677029c
Status:	Success
Block:	10582109 27681 Block Confirmations
Timestamp:	4 days 19 hrs ago (Apr-28-2022 08:49:51 AM +UTC)
From:	0xcef301c79f24c47e73dc566de730262d9192cdd7
To:	0x42eb768f2244c8811c63729a21a3569731535f06
Value:	0.1 Ether (\$0.00)
Transaction Fee:	0.000667870822731 Ether (\$0.00)

13. What is the value of this transaction fee (it may be a fraction of a cent)? In addition to giving the answer, include a screenshot.

0.00USD

Transaction Details < >

Overview

State

[ This is a Rinkeby Testnet transaction only ]

Transaction Hash:

0x2d4aae477faa3336d8313bf41fe455516cd69e116dd77eeb76e620146677029c

Status:

Success

Block:

10582109 27681 Block Confirmations

Timestamp:

4 days 19 hrs ago (Apr-28-2022 08:49:51 AM +UTC)

From:

0xcef301c79f24c47e73dc566de730262d9192cdd7

To:

0x42eb768f2244c8811c63729a21a3569731535f06

Value:

0.1 Ether (\$0.00)

Transaction Fee:

0.000667870822731 Ether (\$0.00)

14. From what you can see in this chart, what is the time between blocks in the Ethereum network?

In addition to giving the answer, include a screenshot.

Under one minute

Blocks

Network Utilization: 46.6% Burnt Fees: 2,262,722.44 ETH Dashboard

Sponsored: Cats and Watches Society - NFTs with Ethereum Rewards. Join Now and Earn \$150,000!

Block #14702504 to #14702528 (Total of 14,702,529 blocks)

Block	Age	Txn	Uncles	Miner	Gas Used	Gas Limit	Base Fee	Reward	Burnt Fees (ETH)
14702528	45 secs ago	76	1	Ethermine	8,479,226 (28.15%, -44%)	30,117,353	51.53 Gwei	2.08862 Ether	0.436947 (94.36%)
14702527	54 secs ago	154	0	Ethermine	24,979,032 (83.02%, +66%)	30,087,972	47.6 Gwei	2.06318 Ether	1.189051 (94.95%)
14702526	59 secs ago	111	0	Ethermine	7,147,399 (23.78%, -52%)	30,058,619	50.94 Gwei	2.02566 Ether	0.364099 (93.42%)
14702525	1 min ago	70	0	Ethermine	4,829,307 (16.08%, -68%)	30,029,295	55.66 Gwei	2.01253 Ether	0.268805 (95.54%)
14702524	1 min ago	151	0	Ethermine	17,889,661 (59.63%, +19%)	30,000,000	54.35 Gwei	2.06437 Ether	0.972346 (93.79%)
14702523	1 min ago	230	0	Ethermine	22,491,011 (74.90%, +50%)	30,029,295	51.16 Gwei	2.08888 Ether	1.150811 (92.83%)
14702522	1 min ago	79	0	MiningPoolHub	8,809,158 (29.36%, -41%)	30,000,000	53.95 Gwei	2.01442 Ether	0.475262 (97.05%)
14702521	1 min ago	198	1	Ethermine	29,984,819 (99.95%, +100%)	30,000,000	47.96 Gwei	2.16071 Ether	1.438126 (93.61%)
14702520	1 min ago	18	0	Hiveon Pool	1,721,367 (5.74%, -89%)	30,000,000	53.92 Gwei	2.00622 Ether	0.092832 (93.72%)
14702519	2 mins ago	364	0	Ethermine	30,012,455 (99.94%, +100%)	30,029,295	47.94 Gwei	2.15 Ether	1.438893 (99.56%)


15. After a stable increase in time between blocks, the two dates with abrupt decreases are October 16, 2017 and February 28, 2019. Investigate these two dates in the Ethereum's history. Why are they important? What caused there to be an increase and, suddenly, a decrease in time between blocks?

Courtesy of [ethereum.org/en/history](https://ethereum.org/en/history)

## 2017

### Byzantium

Oct-16-2017 05:22:11 AM +UTC

 Block number: [4,370,000](#)

ETH price: \$334.23 USD

[ethereum.org on waybackmachine](#)

### Summary

The Byzantium fork:

- Reduced block [mining](#) rewards from 5 to 3 ETH.
- Delayed the [difficulty bomb](#) by a year.
- Added ability to make non-state-changing calls to other contracts.
- Added certain cryptography methods to allow for [layer 2 scaling](#).

### Constantinople

Feb-28-2019 07:52:04 PM +UTC

 Block number: [7,280,000](#)

ETH price: \$136.29 USD

[ethereum.org on waybackmachine](#)

### Summary

The Constantinople fork:

- Ensured the blockchain didn't freeze before [proof-of-stake was implemented](#).
- Optimised the [gas](#) cost of certain actions in the [EVM](#).
- Added the ability to interact with addresses that haven't been created yet.