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1. Which is a necessary feature of a distributed ledger? **1 / 1 point**

- The identity and integrity of the ledger is ensured by controlling physical access to where the codex is stored.
- Identity and integrity of the ledger is ensured by controlling access to the application that maintains the ledger.
- **Identity and integrity on the ledger is ensured via the consensus process, which specifies how peers reach consensus.**

Correct

This is the correct description for a distributed ledger. The consensus process is the key element, as it as it allows for control over the ledger to be distributed among the users.

2. **1 / 1 point**

Which features are commonly used in distributed ledger technology? *Select all that apply.*

- [x] Consensus formation

Correct

Consensus formation is the process by which multiple parties agree on what can be written to a distributed ledger.

- [x] Peer-to-peer protocols

Correct

Peer-to-peer protocols describe the ways that computers communicate with one another in the transmission of information related to maintaining a distributed ledger between them.

- [x] A cryptographic infrastructure

Correct

A cryptographic infrastructure helps to secure and protect a distributed ledger system.

- [ ] Blocks as the mechanism for maintaining shared information

3. **1 / 1 point**

What year was the concept of a cryptographically secured chain of blocks introduced?

- **1991**
- 1992
- 1999
- 2008
- 2013
- 2015
- 2017

Correct

Correct. A cryptographically secured chain of blocks was first described in 1991 by Stuart Haber and W. Scott Stornetta in the paper "How to Time-Stamp a Digital Document", published in the Journal of Cryptology.

4. **1 / 1 point**

Identify a major difference between a dApp and a standard web application

- **The main difference between standard apps and dApps is that dApps run on a peer-to-peer network, such as Ethereum, instead of being deployed on a single individual's or private company's servers.**
- dApps use less power, and are more efficient
- dApps can only be run one at a time
- There are fewer than 10 dApps, while there are thousands of non-dApp applications

Correct

Correct. Decentralized applications run on a peer-to-peer network. Computation is performed across the network on many nodes simultaneously.

5. What feature is a unique characteristic that a dApp has that makes it different from other types of web applications? **1 / 1 point**

- A server
- A graphical user interface
- A database
- **A smart contract**

Correct

The use of smart contracts, which are a pieces of code that sit on the blockchain, is a unique characteristic of a dApp.

6. **1 / 1 point**

Who is the founder of Ethereum?

- Nick Szabo
- **Vitalik Buterin**
- Satoshi Nakamoto
- Alan Turing

Correct

Vitalik Buterin is the founder of Ethereum, which he first described in 2013.

7. Select the option that best describes the value proposition of the Enterprise Ethereum Alliance. **1 / 1 point**

- "Pay to play" governance to ensure alignment
- **A commitment to lead Ethereum's further adoption**
- Building a secure wallet that everyone can use.
- Serving as the governing body for all Ethereum decision making

Correct

Correct, the EEA is committed to lead Ethereum's further adoption, as well as building and expanding applications on top of open source code.

8. Why can a blockchain be an example of triple entry accounting? Select all that apply. **1 / 1 point**

- [x] Because while each participating member of a blockchain would possess their own transaction records, the blockchain would contain a third record of each transaction. That is, for each transaction, you'd have a pair of privately held records kept by the sender and receiver, and a third recorded to the blockchain.

Correct

Correct, "triple entry" in "triple entry accounting" refers to this third recording of a given transaction that isn't possessed privately by any participating member individual or organization.

- [x] Because a blockchain can allow for far easier auditing and reconciliation of transactions, and automation of the auditing process, by having all transactions in one place.

Correct

Correct, the blockchain removes the need for a third party trusted verifier to examine separate ledgers possessed by each participant in a system.

- [ ] Because a bank can take over a public blockchain, thus allowing them to ensure that every transaction took place.
- [ ] Because all databases allow for triple entry accounting.

9. Which are features of the Ethereum blockchain? *Select all that apply.* **1 / 1 point**

- [x] Multi-sided marketplaces

Correct

Correct, the Ethereum blockchain allows for individuals to transact with other individuals and organizations with cryptographic security and certainty. As the Ethereum blockchain is a peer-to-peer network, it is possible for all participating in the market to buy, sell, and trade services on the Ethereum blockchain.

- [x] Decentralized applications

Correct

Correct, the Ethereum blockchain has the ability to be programmed, similar to a computer and hence, applications can be built on top of it. These computer programs run across all the computers that are nodes of the blockchain. These applications are are called decentralized applications (or DApps—sometimes stylized as dApps).

- [x] Smart contracts

Correct

Correct, the Ethereum blockchain allows for the writing of smart contracts that run on the EVM. Once deployed to the Ethereum blockchain, they cannot be altered or changed in any way.

- [x] Digitized assets

Correct

Correct, the Ethereum blockchain allows for the digitization of assets, storing them as tokens. The ERC20 standard allows for the creation of tokens on the Ethereum blockchain, with one potential use case being the digitizing of assets.

10. Decentralization is an important concept in understanding blockchain. Please select the descriptions below that describe decentralization. *Select all that apply.* **1 / 1 point**

- [x] Decentralization is about shifting power and authority away from one central entity and making that power available to the community members themselves.

Correct

Correct, as we described it decentralization results in *redistribution* of power from centralized sources.

- [x] Decentralization can put value back in the hands of the user from centralized entities because it allows for users of a systems to interact directly with peers and organizations.

Correct

Correct, decentralization can allow users to interact more directly with others in the system. There is no need to work through a centralized entity. This opens many possibilities in terms of how users can generate and exchange value.

- [x] Decentralization has tangible benefits to networked systems because it creates redundancy.

Correct

Correct, decentralized systems do not have a single point of failure. In the case of a blockchain, this looks like many nodes running the same code, with the same information being recorded to them, in order to create a robust network system.

11. What is the difference between Blockchain and Bitcoin? **1 / 1 point**

- There is no difference and the terms can be used interchangeably.
- Bitcoin is the foundational technology and blockchain is the first application of Bitcoin.
- **Blockchain is the underlying technology and Bitcoin is one of the first and most famous application of this technology.**

Correct

Blockchain is the technology that makes bitcoin possible. Bitcoin is the most famous application of blockchain technology so far. Learn more in Lesson 2: The Brief, Brief History of Blockchain