

Unit Test | Computing Systems/Computational Thinking

Short Answer

- 1) What do the letters “RAM” stand for in computers?
- 2) How many bytes are there in a kilobyte (without using exponents)?
- 3) How many megabytes are in a gigabyte (without using exponents)?
- 4) What is the next largest named size of memory after gigabyte?
- 5) What is the number system that uses only two digits (base 2) called?
- 6) What is the number system that uses ten digits (base 10) called?
- 7) What is the basic unit of storage in computers (very small, 0 or 1)?
- 8) What do the letters “CPU” stand for in computers?
- 9) A power supply, motherboard, and what two things make up the core of the computer?
- 10) All hardware that is not the core that works on the outside edges is called what?
- 11) What is the term to describe memory that **needs** a power supply to retain information?
- 12) Approximately how many bytes are there in one gigabyte?
- 13) How many bits are there in one byte?
- 14) A megabyte is the same as 2 to what power of bytes? (2^x)
- 15) What kind of memory is the “opposite” of random access?

Determine if the following are Input devices (I), Output devices (O), or both (B)

- 16) Standard monitor
- 17) Microphone
- 18) Printer
- 19) Touch Screen Monitor
- 20) A video game controller that shakes

Fill in the blank with the appropriate unit of memory (use each one once):

- 21) Last night I downloaded the song “No Rules” by Dua Lipa; it took up 6.3 _____ of memory.
- 22) I can fit over 50,000 songs on my new MacBook Pro; it has a 512 _____ hard drive.
- 23) I started saving a bunch of 4k videos onto my computer, so now I upgraded to a 1 _____ hard drive.
- 24) The test only takes up 31 _____, not much room at all!
- 25) I can represent all the characters on my keyboard using only a single _____.

Identify the (most specific, use only once) part of the computer being described:

- 26) A standardized printed circuit board, also called a logic board.
- 27) Thumb drives, DVDs, and SSD drives.
- 28) A general description for everything stored as 0's and 1's.
- 29) Popular ones include Windows, Linux, and MacOS.
- 30) The type of hardware that works on the outside edges of the computer.
- 31) Usually referred to simply as RAM.
- 32) The type of hardware that contains parts like the power supply and CPU.
- 33) This carries out every command on the computer.
- 34) A general description of all parts that can physically be seen and touched.
- 35) Spotify, Candy Crush, and Fortnite.

Convert from base 2 to base 10:

- 36) 1010 1010
- 37) 1011 1111

Convert from base 10 to base 2:

- 38) 189
- 39) 53

Convert from base 16 to base 2:

- 40) B9
- 41) 33

Convert to base 10:

- 42) 2122_3
- 43) 44_7

Convert from base 10:

- 44) $53 \rightarrow ?_4$
- 45) $53 \rightarrow ?_8$

True or False: Are the following a type of RAM (T) or not (F)?

- 46) VHS Tape
- 47) iPhone SIM Card
- 48) Main Memory

Is the following number ODD (O) or EVEN (E) when converted?

- 49) 10 1010 1010 0000 1111 1010 1010 1111 0000 1010
- 50) How many bits are in a nybble?

Bonus) Exactly how many bits are in a megabyte (the number without an exponent)?