Congratulations! You passed!

Grade received 100% To pass 100% or higher

Go to next item

1. How many digits can be in each place in a number system? **1 / 1 point**

- (•) 1
- ( ) 2
- ( ) 10
- ( ) 16

Correct
The binary number system is base 2. The decimal number system is base 10. The hexadecimal number system is base 16. But in each place or position in a number system there can be only one digit.

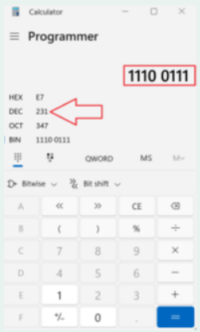
2. What is the decimal value of the binary number 11100111? **1 / 1 point**

231

Correct
Correct

27	26	25	24	23	22	21	20
128	64	32	16	8	4	2	1
1	1	1	0	0	1	1	1

128 + 64 + 32 + 4 + 2 + 1 = 231



3. In troubleshooting a computer, you discover the subnet mask is 255.252.0.0. What does this tell you about the network? **1 / 1 point**

- ( ) The network has very few IP addresses.
- ( ) The network administrator has used the wrong subnet mask.
- (•) The network has been subnetted.
- ( ) The network does not have a network address.

Correct
It means that the point at which the network address becomes the host address isn't happening at a dot. We "break" a network address inside of an octet when we want to subnet, or divide, a network.

4. What is the subnet mask being represented by a /23 CIDR? **1 / 1 point**

255.255.254.0

Correct
1. If the CIDR is greater than or equal to 8, write 255 in the octet and subtract 8 from the CIDR to get the new CIDR.

   /23 is greater than 8. The first octet will be 255. At this point, the subnet mask is 255. and the new CIDR is /15.

1. Continue until the new CIDR is less than 8.

   /15 is greater than 8 so the second octet will be 255. At this point, the subnet mask is 255.255. and the new CIDR is /7 which is less than 8.

1. Write as many 1s as the number remaining. Then add zeroes to get to eight digits.

   The third octet will be 11111110.

1. Convert to decimal.

   11111110is equivalent to 254. At this point, the subnet mask is 255.255.254.

1. All remaining octets will be zero.

   Only one octet is left, the fourth octet. The full subnet mask is 255.255.254.0.