IP subnetting

1) 192.168.1.55/26
255.255.255.192

Is this a usable host address?

Sols * /26 is the mask and put 26's one's.
and convert it into decimal.

11111111.11111111.11111111.11000000
255.255.255.192.

* Next is to find the magic number.
so subtract 256. with 192.

```
  256
- 192
-----
   64
```

* Here 256 is $2^8 = 256$. (0-255)
192 is the mask's 4th octet. because it is neither 0 or 255.

*. Now find the first address.

192.168.1.0 –

192.168.1.64

192.168.1.128

192.168.1.192

✗ 192.168.1.256 → It is Exceeding 255 so. Substract again with 64

(*) Subnetworks ~~2222~~ $2^2 = 4$ (two 1's are present in the 4th Octet of the mask).

(*) Hosts $= 2^6 = \underline{64}$.

→ Next we will find the no of subnetworks from Each n/w address which are listed above.

192.168.1.0 – 192.168.1.63 (192.168.1.1 – 192.168.1.62) (1st, last (BC))

192.168.1.64 – 192.168.1.127 (192.168.1.65 – 192.168.1.126)

192.168.1.128 – 192.168.1.191 (192.168.1.129 – 192.168.1.190)

192.168.1.192 – 192.168.1.255 (192.168.1.193 – 192.168.1.254)