2^{32-n} = size of block - network prefix

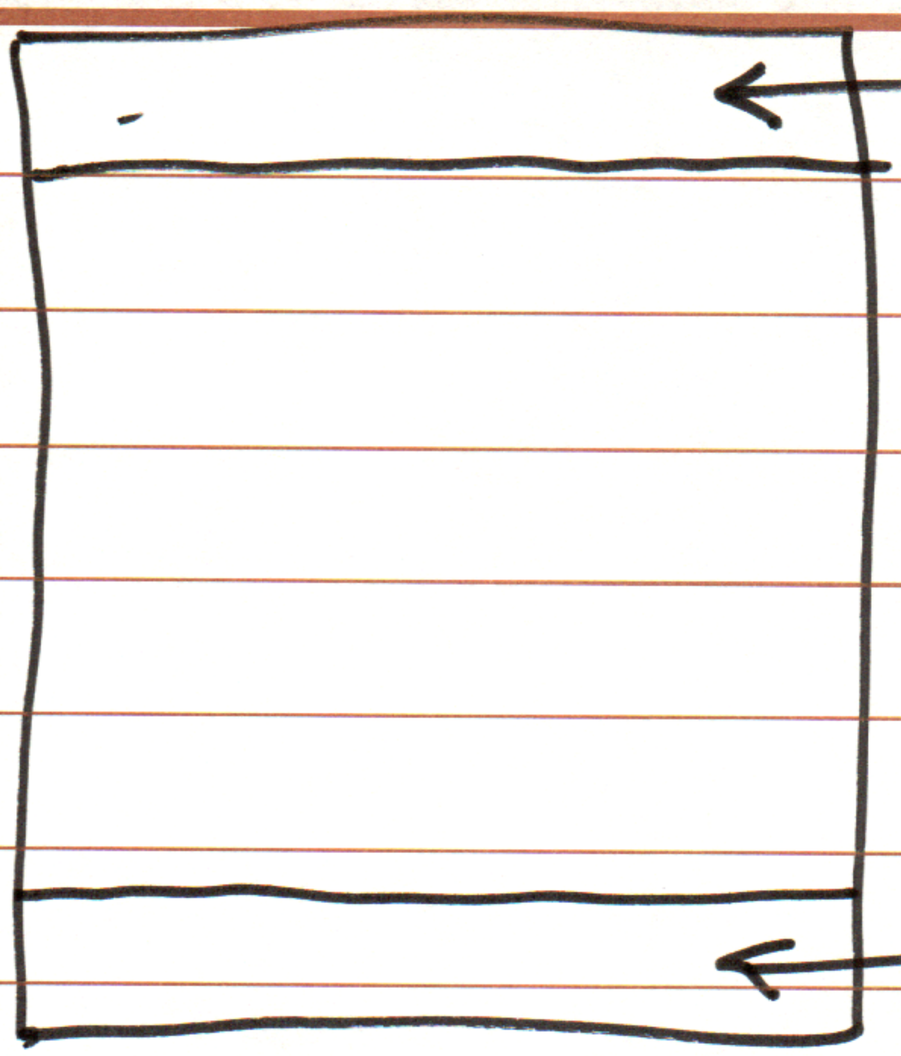
a.b.c.d/n ← = # of bits used for network/subnet

32 - n = # of bits used for the host

a.b.c.d/23 — SM 255.255.254.0

a block of size $2^{32-23} = 2^9$

has 512 addresses.



← add of network (host bits are all 0's)

/n

equivalent to SM

← Direct broadcast add. (host bits are all 1's

/31

/30

/22 = 4 classC networks.

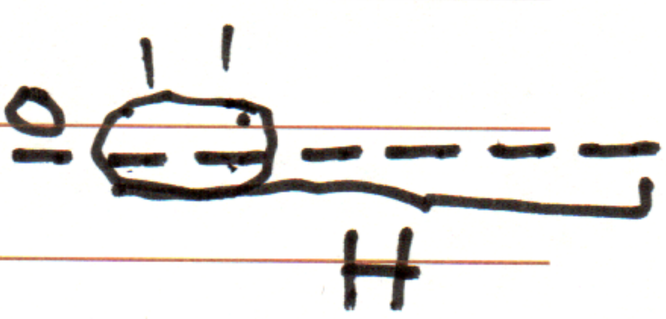
classC /24

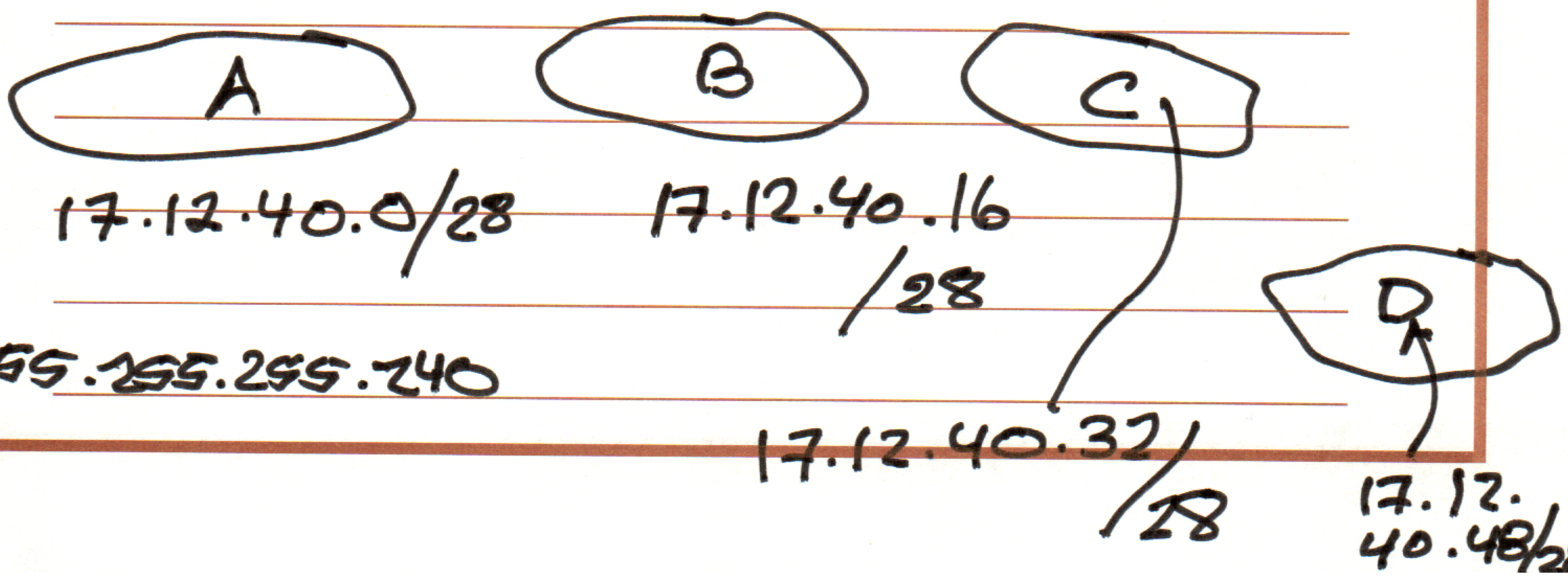
$= \frac{1}{64}^{th}$ of classB

classC /16

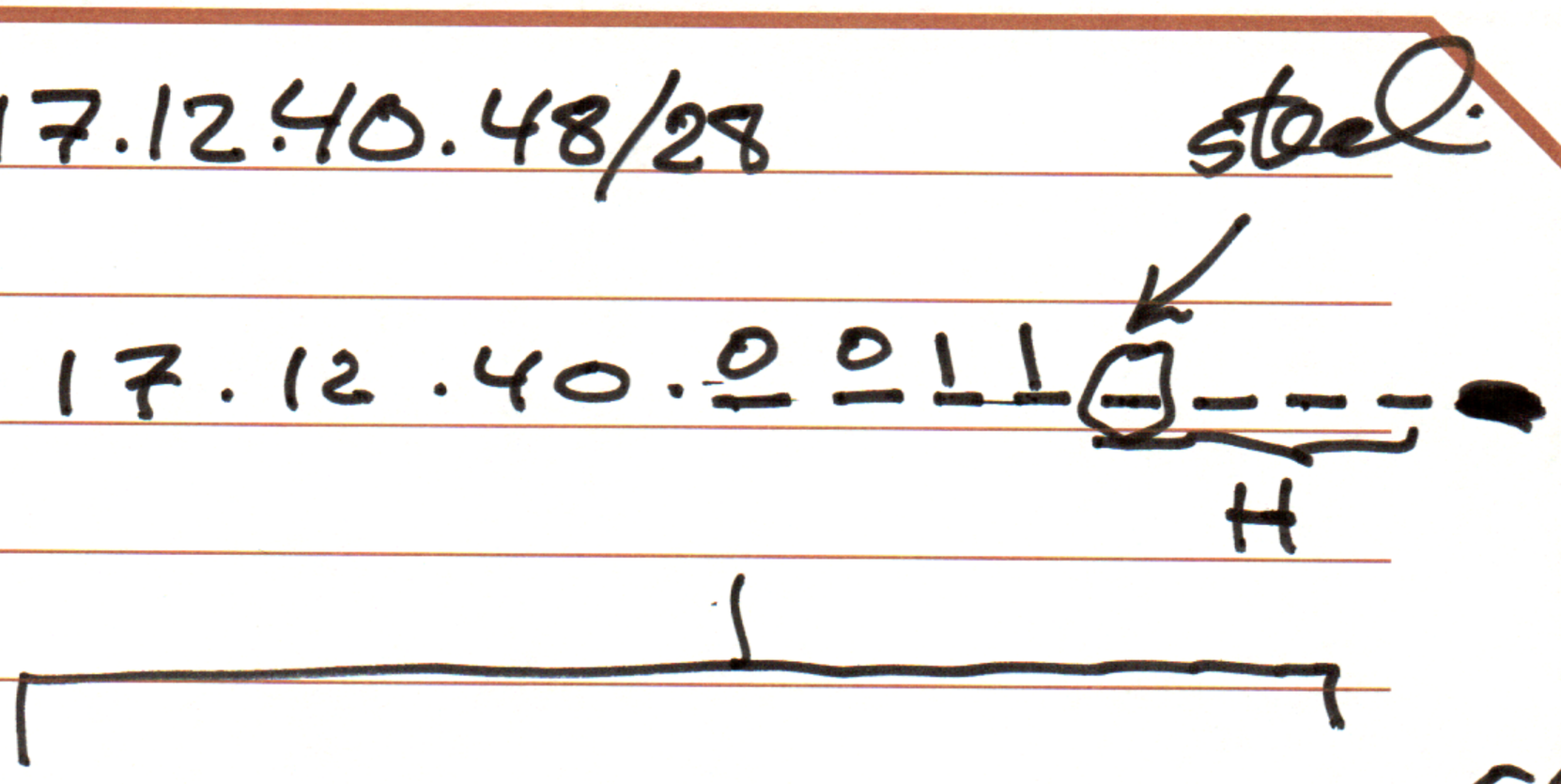
classB network

17.12.40.0/26





17.12.40.48/28



56

17.12.40.48/29

17.12.40.[redacted]/29

Address Aggregation

200.23.---1-----.0/23
Host bits

200.23.---1--1--.0/23

200.23.---1-1---.0/23

:

:

:

200.23.---1111---.0
Host-

200.23.16.0/20

180.70.65.140

255.255.255.192

180.70.65.128

No match.

180.70.65.140

255.255.255.128

180.70.65.128 matches.

140.24.7.00------

H

140.24.7.01------

H

140.24.7.10 ——

140.24.7.11 ——

140.24.7.0/24 → advertise

Suppose R_2 receives a packet destined to

140.24.7.160

140.24.7.160
255.255.255.0
140.24.7.0

R_1 receives the packet.

140.24.7.160
255.255.255.192
140.24.7.128

R_2 receives a packet destined to

140.24.7.200

140.24.7.200
255.255.255.0
140.24.7.0

140.24.7.200

255.255.255.192

140.24.7.192

Conclusion: R_2 will use the concept of

"Longest Prefix Match"

to deliver the packets.