



# TNE10006/TNE60006: Networks and Switching



## IPv4 Subnetting Questions

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# Outline

- What Network is an Address in?
- Is Address A in Network B?
- Is Address A a Valid Host Address



## IPv4 Subnetting Questions

# What Network is an IP Address In?

- Example – 100.87.32.15/11

11 bits in the network portion

IP Address:

01100100	01010111	00100000	00001111
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Network Address:

01100100	01000000	00000000	00000000
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Network Address – 100.64.0.0/11



## IPv4 Subnetting Questions

### Is Address A in Network B?

- Example – Is 140.63.29.42 in 140.63.24.0/22

22 bits in the network portion

IP Address:

10001100	00111111	00011101	00101010
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Network Address:

10001100	00111111	00011100	00000000
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Network Address – 140.63.28.0/22

**Not equal to provided network address!**



## IPv4 Subnetting Questions

# Is Address A a Valid Host IP Address?

- Example – 201.49.13.15/28

Subnetted – 28 bits for network portion

IP Address:

11001001	00110001	00001101	00001111
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Host ID:

			1111
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Host ID bits all '1'

**This is a Broadcast Address**



## IPv4 Subnetting Questions

# Is Address A a Valid Host IP Address?

- Example – 196.0.0.32/28

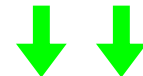
Subnetted – 28 bits for network portion

IP Address:

11000100	00000000	00000000	00100000
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Host ID:

			0000
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Host ID bits all '0'

**This is a Network Address**



## IPv4 Subnetting Questions Summary

In this lecture, we covered:

- What Network is an Address in?
- Is Address A in Network B?
- Is Address A a Valid Host Address