

INTERNET PROTOCOL VERSION 4 (IPV4) PRACTICE TEST (SAMPLE)

STUDY GUIDE



**SAMPLE STUDY GUIDE
WITH LIMITED QUESTIONS**

**VISIT US ONLINE FOR
THE FULL VERSION STUDY GUIDE**

<https://ipv4.examzify.com>



Copyright © 2026 by Examzify - A Kaluba Technologies Inc. product.

ALL RIGHTS RESERVED.

No part of this book may be reproduced or transferred in any form or by any means, graphic, electronic, or mechanical, including photocopying, recording, web distribution, taping, or by any information storage retrieval system, without the written permission of the author.

Notice: Examzify makes every reasonable effort to obtain accurate, complete, and timely information about this product from reliable sources.

SAMPLE

Table of Contents

Copyright	1
Table of Contents	2
Introduction	3
How to Use This Guide	4
Questions	5
Answers	8
Explanations	10
Next Steps	15

SAMPLE

Introduction

Preparing for a certification exam can feel overwhelming, but with the right tools, it becomes an opportunity to build confidence, sharpen your skills, and move one step closer to your goals. At Examzify, we believe that effective exam preparation isn't just about memorization, it's about understanding the material, identifying knowledge gaps, and building the test-taking strategies that lead to success.

This guide was designed to help you do exactly that.

Whether you're preparing for a licensing exam, professional certification, or entry-level qualification, this book offers structured practice to reinforce key concepts. You'll find a wide range of multiple-choice questions, each followed by clear explanations to help you understand not just the right answer, but why it's correct.

The content in this guide is based on real-world exam objectives and aligned with the types of questions and topics commonly found on official tests. It's ideal for learners who want to:

- Practice answering questions under realistic conditions,
- Improve accuracy and speed,
- Review explanations to strengthen weak areas, and
- Approach the exam with greater confidence.

We recommend using this book not as a stand-alone study tool, but alongside other resources like flashcards, textbooks, or hands-on training. For best results, we recommend working through each question, reflecting on the explanation provided, and revisiting the topics that challenge you most.

Remember: successful test preparation isn't about getting every question right the first time, it's about learning from your mistakes and improving over time. Stay focused, trust the process, and know that every page you turn brings you closer to success.

Let's begin.

How to Use This Guide

This guide is designed to help you study more effectively and approach your exam with confidence. Whether you're reviewing for the first time or doing a final refresh, here's how to get the most out of your Examzify study guide:

1. Start with a Diagnostic Review

Skim through the questions to get a sense of what you know and what you need to focus on. Your goal is to identify knowledge gaps early.

2. Study in Short, Focused Sessions

Break your study time into manageable blocks (e.g. 30 – 45 minutes). Review a handful of questions, reflect on the explanations.

3. Learn from the Explanations

After answering a question, always read the explanation, even if you got it right. It reinforces key points, corrects misunderstandings, and teaches subtle distinctions between similar answers.

4. Track Your Progress

Use bookmarks or notes (if reading digitally) to mark difficult questions. Revisit these regularly and track improvements over time.

5. Simulate the Real Exam

Once you're comfortable, try taking a full set of questions without pausing. Set a timer and simulate test-day conditions to build confidence and time management skills.

6. Repeat and Review

Don't just study once, repetition builds retention. Re-attempt questions after a few days and revisit explanations to reinforce learning. Pair this guide with other Examzify tools like flashcards, and digital practice tests to strengthen your preparation across formats.

There's no single right way to study, but consistent, thoughtful effort always wins. Use this guide flexibly, adapt the tips above to fit your pace and learning style. You've got this!

Questions

SAMPLE

- 1. In IPv4, what does the 4-bit Version field value of 4 signify?**
 - A. IPv4.
 - B. IPv6.
 - C. IPv5.
 - D. IPv7.

- 2. What is the purpose of RFC 1918?**
 - A. It defines private IP address ranges.
 - B. It defines multicast addresses.
 - C. It defines the reserved loopback range.
 - D. It defines public address allocation.

- 3. Which NAT type maps a private address to a fixed public address?**
 - A. Dynamic NAT maps a private address to a public address on a pool.
 - B. Static NAT maps a fixed private address to a public address.
 - C. PAT maps many private addresses to a single public address using ports.
 - D. NAT does not modify IP addresses in any way.

- 4. What are the common purposes of ICMP Echo Request and Echo Reply messages?**
 - A. They are used to measure TTL
 - B. They are used by the ping utility to test reachability and measure round-trip time.
 - C. They are used to broadcast to all hosts
 - D. They are used to negotiate MTU

- 5. What is the IPv4 loopback address and its typical use?**
 - A. 127.0.0.1; used to test the local host
 - B. 0.0.0.0; used to indicate the default route
 - C. 255.0.0.0; the subnet mask for class A
 - D. 192.168.1.1; a typical private gateway

6. What is the purpose of the IPv4 Version field?

- A. It identifies the protocol version and must be 4 for IPv4
- B. It identifies the packet's destination address
- C. It indicates the header checksum
- D. It specifies the total length

7. What is the network address for IP 10.5.12.130 with subnet mask 255.255.255.0?

- A. 10.5.12.0
- B. 10.5.12.130
- C. 10.5.0.0
- D. 10.0.0.0

8. What is the purpose of a loopback address?

- A. The routing of a signal from its origin back to the origin, primarily as a means of testing network connectivity.
- B. A public IP address used to identify a device on the internet.
- C. An address used to broadcast a packet to all hosts on a local network.
- D. An address used to select the default gateway for a device.

9. What is the default subnet mask for a Class C IPv4 address?

- A. 255.255.255.0
- B. 255.0.0.0
- C. 255.255.0.0
- D. 255.255.255.255

10. Class E IP addresses are reserved for what purpose?

- A. Experimental use
- B. Public routing on the internet
- C. Reserved for scientific purposes.
- D. Private networks

Answers

SAMPLE

1. A
2. A
3. B
4. B
5. A
6. B
7. A
8. B
9. A
10. C

SAMPLE

Explanations

SAMPLE

1. In IPv4, what does the 4-bit Version field value of 4 signify?

- A. IPv4.
- B. IPv6.
- C. IPv5.
- D. IPv7.

The Version field at the very start of an IP header tells devices which IP protocol version this packet uses. It is 4 bits long, and a value of 4 means the packet is IPv4. That lets the rest of the header be interpreted with IPv4 rules (for example, the next field after Version is IHL, which indicates the header length in 32 bit words). Other values correspond to different versions: 6 would indicate IPv6, while 5 is an experimental, unused version and 7 is not a standard used today.

2. What is the purpose of RFC 1918?

- A. It defines private IP address ranges.
- B. It defines multicast addresses.
- C. It defines the reserved loopback range.
- D. It defines public address allocation.

RFC 1918 sets aside three IPv4 address blocks for private networks. These ranges—10.0.0.0/8, 172.16.0.0/12, and 192.168.0.0/16—are not meant to be routed on the public Internet. That lets organizations use them internally for devices and subnets without needing globally unique public addresses, conserving scarce public address space and enabling technologies like NAT to reach external networks when needed. Routers on the Internet don't forward traffic to these private ranges, which keeps internal addressing isolated from the global Internet. The other options refer to different concepts: multicast addresses are used for one-to-many delivery and are defined elsewhere; the loopback range (127.0.0.0/8) is for host-local testing; and public address allocation deals with globally routable addresses assigned for Internet-wide use.

3. Which NAT type maps a private address to a fixed public address?

- A. Dynamic NAT maps a private address to a public address on a pool.
- B. Static NAT maps a fixed private address to a public address.
- C. PAT maps many private addresses to a single public address using ports.
- D. NAT does not modify IP addresses in any way.

Static NAT provides a fixed one-to-one mapping between a private IP and a public IP. This means a specific internal device always appears on the internet with the same public address, which is essential for services that must be consistently reachable from outside. Dynamic NAT, in contrast, assigns a public address from a pool for the duration of a session, so the same private address may map to different public addresses over time. PAT (port address translation) lets many private addresses share a single public IP by using different ports, so it is not a one-to-one, fixed mapping. NAT modifies addresses as traffic passes through, which is why the statement that NAT doesn't modify IP addresses isn't correct.

4. What are the common purposes of ICMP Echo Request and Echo Reply messages?

- A. They are used to measure TTL
- B. They are used by the ping utility to test reachability and measure round-trip time.**
- C. They are used to broadcast to all hosts
- D. They are used to negotiate MTU

ICMP Echo Request and Echo Reply are the diagnostic messages that the ping utility uses to verify reachability and measure latency. When you send an Echo Request to a specific host, that host should reply with an Echo Reply. The time from sending the request to receiving the reply gives the round-trip time, which tells you how long a packet takes to travel to the destination and back. This pair is designed for checking that a host is reachable and for gauging response time. These messages aren't used to measure TTL directly, aren't broadcast to all hosts, and aren't involved in negotiating MTU. MTU discovery relies on other mechanisms and ICMP codes, while TTL is a field in the IP header that can influence hop count but isn't the purpose of the Echo messages.

5. What is the IPv4 loopback address and its typical use?

- A. 127.0.0.1; used to test the local host**
- B. 0.0.0.0; used to indicate the default route
- C. 255.0.0.0; the subnet mask for class A
- D. 192.168.1.1; a typical private gateway

The loopback address is a special IPv4 address that refers to the device itself. The most common one is 127.0.0.1, and it sits in the 127.0.0.0/8 range reserved for loopback. When a program connects to 127.0.0.1, the traffic is handled entirely by the local machine's networking stack, never leaving the host. This makes it perfect for testing and developing network software on your own computer—you can run a server and a client on the same machine and verify they communicate without any real network. Other addresses in that range also loop back, but 127.0.0.1 is the standard endpoint people use. The other options describe different concepts: 0.0.0.0 is used to mean "this host" in certain contexts or to specify a default route, not a loopback address; 255.0.0.0 is a subnet mask for class A networks; 192.168.1.1 is a private address commonly used as a gateway on home networks, not a loopback address.

6. What is the purpose of the IPv4 Version field?

- A. It identifies the protocol version and must be 4 for IPv4
- B. It identifies the packet's destination address**
- C. It indicates the header checksum
- D. It specifies the total length

The Version field in an IPv4 header tells devices which version of the Internet Protocol this packet uses and how to interpret the rest of the header. It is 4 bits long, and for IPv4 packets its value must be 4. This small field lets routers and hosts distinguish IPv4 from other IP versions (like IPv6) so they apply the correct parsing rules. This field does not carry the destination address—that's in the Destination Address field. It also isn't the place for the header checksum or the total length; those have their own separate fields (the checksum and the total length fields, respectively). So the purpose of the Version field is to identify the protocol version and indicate that the packet is IPv4, enabling proper processing.

7. What is the network address for IP 10.5.12.130 with subnet mask 255.255.255.0?

- A. 10.5.12.0**
- B. 10.5.12.130
- C. 10.5.0.0
- D. 10.0.0.0

The network address is found by applying the subnet mask to the IP, effectively keeping the network bits and zeroing the host bits. With 10.5.12.130 and a mask of 255.255.255.0, the first three octets (10.5.12) define the network, and the last octet is the host portion set to 0. Bitwise ANDing 10.5.12.130 with 255.255.255.0 gives 10.5.12.0, which is the network address. Why the others don't fit: 10.5.12.130 is the actual host address, not the network. A /16 mask would yield 10.5.0.0 as the network, and a /8 mask would yield 10.0.0.0, which are different networks.

8. What is the purpose of a loopback address?

- A. The routing of a signal from its origin back to the origin, primarily as a means of testing network connectivity.
- B. A public IP address used to identify a device on the internet.**
- C. An address used to broadcast a packet to all hosts on a local network.
- D. An address used to select the default gateway for a device.

Loopback addresses are used to reach the same device from within itself, for testing and internal communication. In IPv4, the loopback range is 127.0.0.0/8, with 127.0.0.1 the most common. Sending a packet to a loopback address never leaves the host; it stays inside the machine and is processed by the local network stack. This lets you verify that the TCP/IP software and services are running correctly without needing another machine or a real network connection. It isn't a public IP used to identify a device on the internet, and it isn't used for broadcasting to all hosts or for selecting a default gateway.

9. What is the default subnet mask for a Class C IPv4 address?

- A. 255.255.255.0**
- B. 255.0.0.0
- C. 255.255.0.0
- D. 255.255.255.255

In IPv4, classful addressing assigns a fixed default subnet mask based on the address class. A Class C address uses 24 bits for the network and 8 bits for hosts, so the default mask is 255.255.255.0 (a /24). This means the first three octets identify the network, and the last octet identifies hosts within that network. There are 256 addresses in a Class C network, of which 254 are usable for devices. The other masks correspond to other classes (Class A uses 255.0.0.0, Class B uses 255.255.0.0), and 255.255.255.255 is the broadcast address, not a subnet mask.

10. Class E IP addresses are reserved for what purpose?

- A. Experimental use
- B. Public routing on the internet
- C. Reserved for scientific purposes.**
- D. Private networks

Class E addresses are reserved for experimental use in IPv4. The 240.0.0.0 to 255.255.255.254 range was set aside in the original classful addressing scheme to allow testing of new protocols and ideas without impacting routable, everyday addresses. They are not intended for public Internet routing and aren't used for typical private networks. Routers on the Internet generally do not route these addresses, and they are not assigned to ordinary devices. Because of that, the best understanding is that Class E is kept aside for experimental purposes rather than for public or private network use.

SAMPLE

Next Steps

Congratulations on reaching the final section of this guide. You've taken a meaningful step toward passing your certification exam and advancing your career.

As you continue preparing, remember that consistent practice, review, and self-reflection are key to success. Make time to revisit difficult topics, simulate exam conditions, and track your progress along the way.

If you need help, have suggestions, or want to share feedback, we'd love to hear from you. Reach out to our team at hello@examzify.com.

Or visit your dedicated course page for more study tools and resources:

<https://ipv4.examzify.com>

We wish you the very best on your exam journey. You've got this!

SAMPLE