



Name _____ Class _____ Date _____

AFTER THIS WORKSHEET YOU CAN

✓ IPv4/IPv6 role ✓ Routing basics ✓ Host forwarding decision ✓ IP header essentials



Section A · Concept Check

• BEGINNER

4 × 1 = 4

- 1 Layer 3 provides:
- ☐ A. end-to-end logical addressing ☐ B. cabling
- ☐ C. MAC learning ☐ D. apps
- 2 Routers forward based on:
- ☐ A. destination IP/route table ☐ B. source MAC
- ☐ C. port color ☐ D. hostname
- 3 A host sends off-network traffic to its:
- ☐ A. default gateway ☐ B. switch MAC table
- ☐ C. DNS always ☐ D. printer
- 4 TTL prevents:
- ☐ A. infinite routing loops ☐ B. viruses
- ☐ C. broadcasts ☐ D. errors



Section B · Problem Solving

• INTERMEDIATE

2 + 3×3 = 11

- 5 IP is connectionless and _____-effort.
- 6 The default _____ is the router interface for the LAN.
- 7 Host decision: local or remote destination – how?

- 8 Three route sources in a table?

- 9 Why is IP best-effort acceptable?



Section C · Challenge

• CHALLENGE

5

- 10 What happens at TTL 0?

Reflection — the most useful thing I learned: _____

A ___/4 B ___/11 C ___/5 Total ___/20

Teacher's Signature

Parent's Signature

ANSWER KEY — FOLD OR CUT BEFORE HANDING OUT

1-A 2-A 3-A 4-A | 5 best 6 gateway 7 = ANDs destination with its subnet mask; same network = direct, else gateway 8 = Directly connected, static, dynamic (routing protocols) 9 = Upper layers (TCP) add reliability when needed | 10 = Packet dropped; ICMP time-exceeded returned (traceroute uses this)