

HW 1

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Step 1

• $123 = 64 + 32 + 16 + 8 + 2 + 1$
 $\Rightarrow 1111011$

• $202 = 128 + 64 + 8 + 2$
 $\Rightarrow 11001010$

• $67 = 64 + 2 + 1$
 $\Rightarrow 1000011$

• $192.168.1.1 \Rightarrow 11000000.10101000.00000001.00000001$

• $255.255.255.0 \Rightarrow 11111111.11111111.11111111.00000000$

$$\begin{array}{r} 255 \overline{) 2} \\ \underline{-2} \\ 05 \\ \underline{-5} \\ 15 \\ \underline{-15} \\ 1 \end{array}$$

$$\begin{array}{r} 168 \overline{) 2} \\ \underline{-168} \\ 0 \\ 84 \\ \underline{-84} \\ 0 \\ 42 \\ \underline{-42} \\ 0 \\ 21 \\ \underline{-21} \\ 0 \\ 10 \\ \underline{-10} \\ 0 \\ 5 \\ \underline{-5} \\ 0 \\ 2 \\ \underline{-2} \\ 0 \\ 1 \end{array}$$

• $255.248.0.0 = 11111111.11110000.00000000.00000000$

Step 2

• $11111111 \Rightarrow 255$

• $11101010.0001011.10000000.10100100$
 $128 \quad 32 \quad 8 \quad 1 \quad 168 \quad 21 \quad 128 \quad 32 \quad 4$

• $11010011 \Rightarrow 211$

$233.27.128.164$
 $168 \quad 32 \quad 8 \quad 2 \quad 32 \quad 16 \quad 4 \quad 16 \quad 32 \quad 16 \quad 4 \quad 16 \quad 32 \quad 16 \quad 4$
 $10101010.00010100.11100110.00010111$
 $170.52.230.29$

• $11111111.11111000.00000000.00000000$

$= 255.252.0.0$

Step 3

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Dec	Hex	Binary
169	A9	10101001
255	FF	11111111
231, 99, 28	E7-63-1C	11100111.01100011.00011100
53	35	00110101
115	73	01110011
212, 35, 119, 45	D4.23.77.2D	11010100.00100011.01110111.00101101
170	1A	10101010

$$\begin{array}{r} 115 \overline{) 231} \\ \underline{115} \\ 116 \end{array}$$

$$\begin{array}{r} 11 \overline{) 231} \\ \underline{22} \\ 11 \end{array}$$

CS Scanned with CamScanner

The screenshot shows a Cisco Packet Tracer interface with a network topology. A PC (PC0) is connected to a PC (PC1). The PC0 window is open, showing a command prompt with the following output:

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.1.2

Pinging 192.168.1.2 with 32 bytes of data:
Reply from 192.168.1.2: bytes=32 time=1ms TTL=128
Reply from 192.168.1.2: bytes=32 time=1ms TTL=128
Reply from 192.168.1.2: bytes=32 time=1ms TTL=128
Reply from 192.168.1.2: bytes=32 time=1ms TTL=128

Ping statistics for 192.168.1.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in Milliseconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms
```