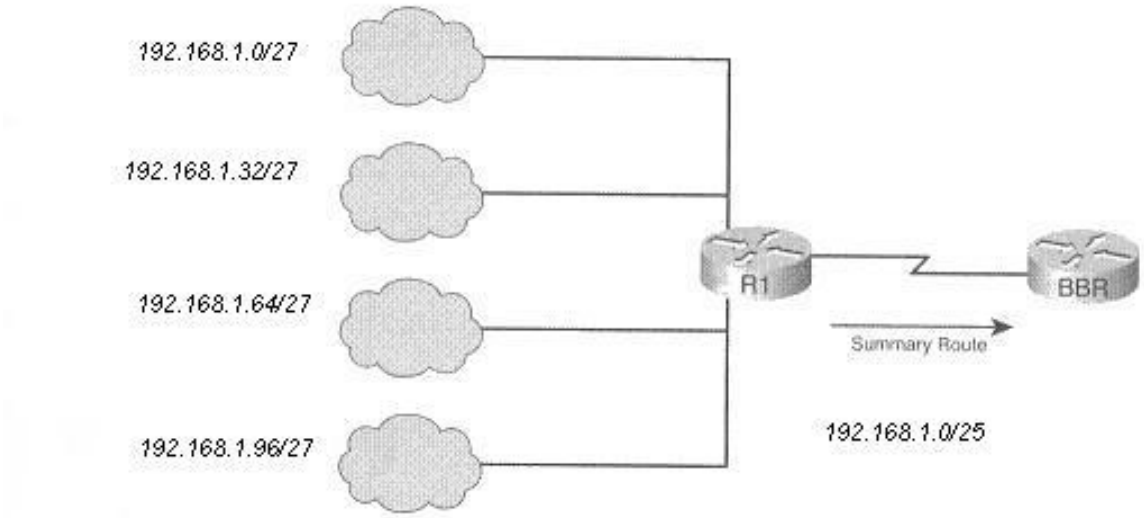
Cisco 2 **Name _____**
Route Summarization Assignment

Practice Summary Route Example:

Figure 2-2 Summary Route Example



Use the following steps to calculate a summary route:

1. Write out the networks that you want to summarize in binary, as shown following Step 4.

2. To find the subnet mask for summarization, start with the leftmost bit.

3. Work your way to the right, finding all the bits that match consecutively.

4. When you find a column of bits that do not match, stop. You are at the summary boundary.

11000000.10101000.00000001.00000000
11000000.10101000.00000001.00100000
11000000.10101000.00000001.01000000
11000000.10101000.00000001.01100000

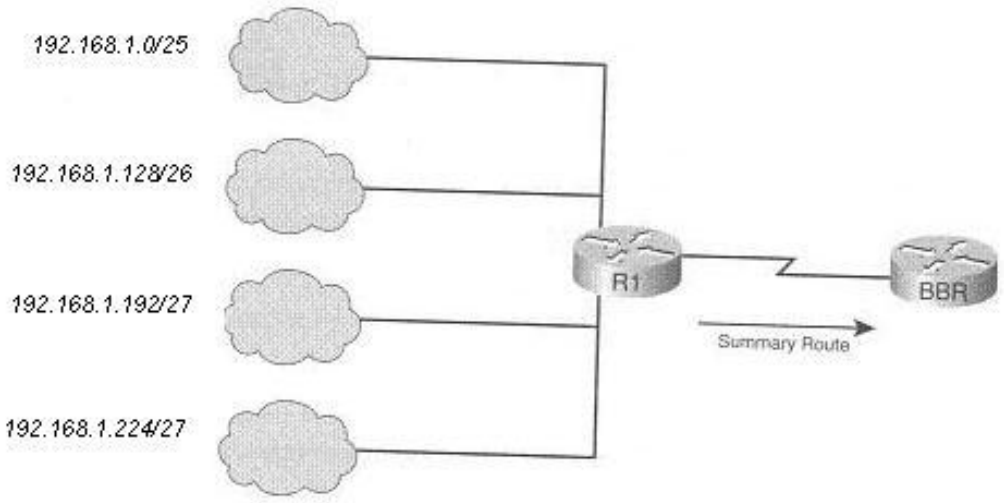
5. Count the number of leftmost matching bits, which in this example is 25. This number becomes your subnet mask for the summarized route, /25 or 255.255.255.128.

6. To find the network address for summarization, copy the matching 25 bits and add all 0 bits to the end to make 32 bits. In this example, the network address is 192.168.1.0.

Summary Route Exercise 1

Referring to figure 2-3, what summary route would R1 send to BBR for the four networks shown?

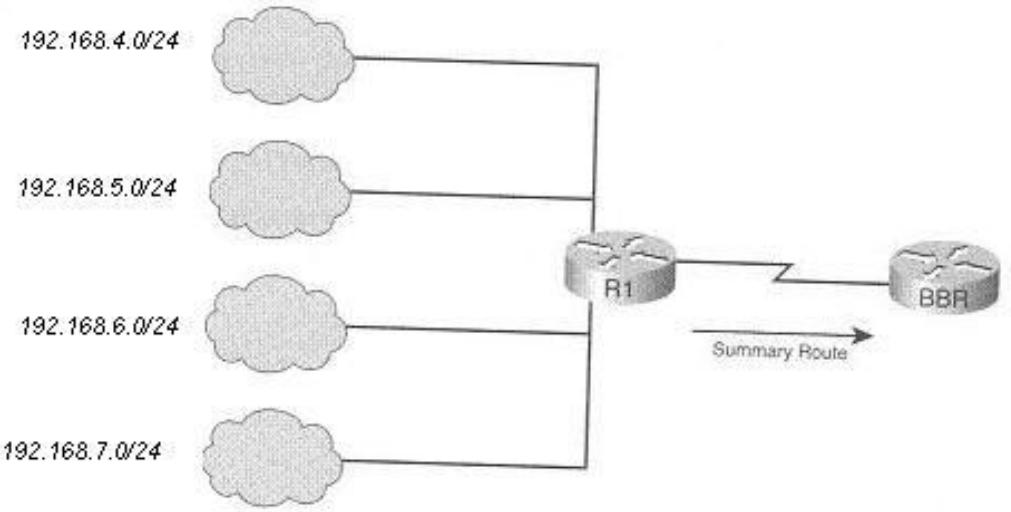
Figure 2-3 Summary Route Exercise 1



Summary Route Exercise 2

Referring to figure 2-4, what summary route would R1 send to BBR for the four networks shown?

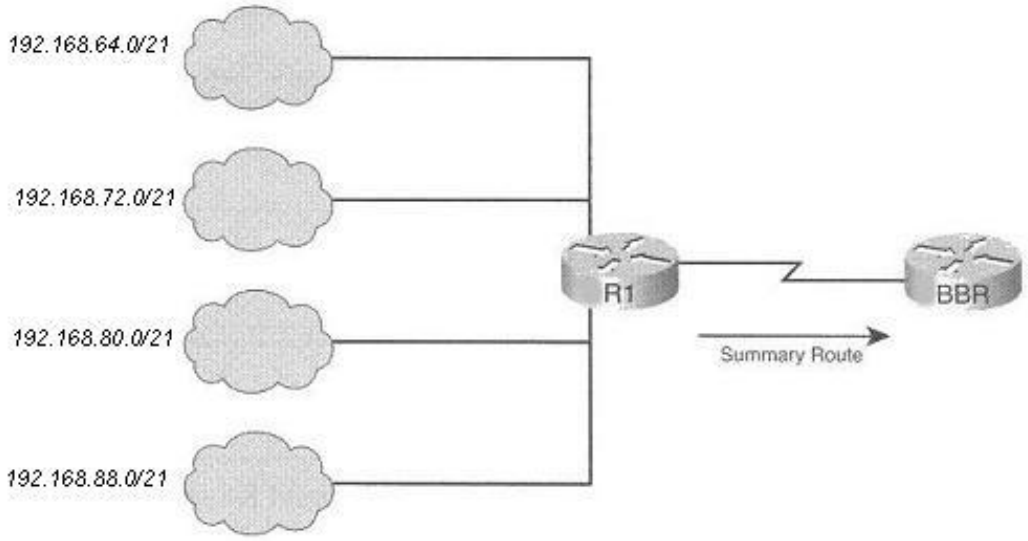
Figure 2-4 Summary Route Exercise 2



Summary Route Exercise 3

Referring to figure 2-5, what summary route would R1 send to BBR for the four networks shown?

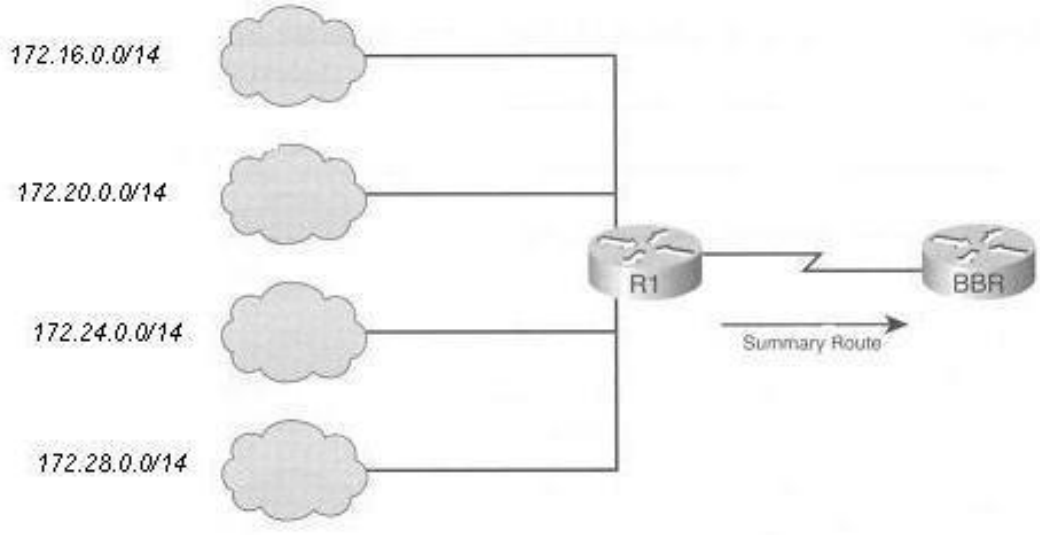
Figure 2-5 Summary Route Exercise 3



Summary Route Exercise 4

Referring to figure 2-6, what summary route would R1 send to BBR for the four networks shown?

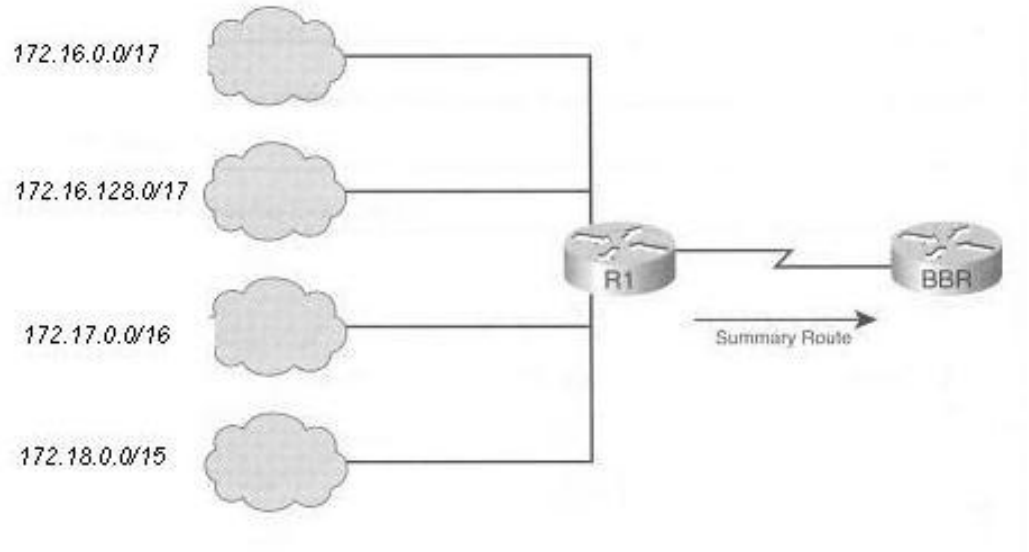
Figure 2-6 Summary Route Exercise 4



Summary Route Exercise 5

Referring to figure 2-7, what summary route would R1 send to BBR for the four networks shown?

Figure 2-7 Summary Route Exercise 5



Summary Route Exercise 6

Referring to figure 2-8, what summary route would R1 send to BBR for the four networks shown?

Figure 2-8 Summary Route Exercise 6