Video - Creating Eight Equal-sized Subnets (3 min)

In this situation, we need to create eight equal-sized subnets starting from the 192.168.1.0/24 network. We actually only need to create five subnets but since subnets are created in powers of two, starting from two, we'll need to create eight equal-sized subnets in order to accommodate the five subnets necessary in this diagram. First, I write out the subnet mask in binary, 24 ones for a /24 network. we're going to borrow bits from the host portion of the subnet mask. If we borrow three bits, we've borrowed two to the third power of bits and two times two times two is eight so this will create eight subnets. The last one in our new /27 subnet mask is in the 32's place, if we look at it according to an 8-bit binary conversion table. So the last bit is in the 32's place, this lets us know that the subnets will go up in increments of 32. The first network will be the 0 subnet /27 and the next subnet will be the 32 subnet /27 and then going up in increments of 32. 32 plus 32 is and then the 96 subnet. After 96 we'll have the 192.168.1.128 /27 subnet and then the 160 subnet, the 192 subnet and the 224 subnet. As you can see, we have eight subnetworks going up in increments of 32, the zero, the 32, 64, 96, 128, 160, and 224. We can use any of these eight subnets to accommodate the five subnets that we'll need to address all of these networks.