>> If 5.7 moles of gas occupy 3.6-liters how much volume will 7.8 moles of gas occupy? Looking at the information they've given us you can see we have moles of a gas, we have volume of a gas. Okay. Now we come to a second volume. Okay. So that's going to be volume 2 making this volume 1. And another amount of moles. So, this will be moles 2 n2. This will be n1. All right. So, what we have here is a problem where we're relating moles to volume. So, we have n1 and v1, n2 and v2 is our unknown. Well Avogadro's law says volume 1 divided by moles 1 gives us volume 2 divided by moles 2. So, this 1 is the evident 1 that we're going to be using. In this case we need to isolate v2 over here. We see that v2 is being divided by n2 so we're then going to multiply both sides by n2. In so doing we can then eliminate the n2 from this side giving us our new equation v2 equals v1 times n2 divided by n1. Taking the information from there plugging it in and doing the math we see that our new volume is 4.9-liters. Again, let's see if this makes sense. When volume goes up the number of moles go up. Or actually probably would be better to say as we increase the number of moles we're going to increase the volume of our gas. All right. And so, we did increase the number of moles, our volume should have increased. It was 3.6, it went to 4.9. So, yes, it did increase like we expected.