

>> Write the chemical equation for this equilibrium constant expression. Okay, we see the equilibrium constant expression here, K_c equals, now here's the numerator, and here's the denominator. We know that the items that are in the numerator are our products, and those in the denominator are our reactants. So we can go ahead and write those down here. This is methane. We have that, CH_4 . And here's H_2S . We're written that down here. Now since they're both in this expression, that means they both have to be in gas form and you'll notice that there's a power of 2 on this one right here. That is going to be the coefficient in our equation. We're putting in now our double-headed arrow, and now we're going to go ahead and put in our product. So first product is carbon disulfide, CS_2 . Again, there's no power here, so the coefficient is the implied 1. It's going to be a gas. And then we also have hydrogen gas. So we have plus our hydrogen gas, coefficient of 4 – I'm sorry. The power of 4 tells us there's a coefficient of 4 down here.