So the last question we can ask us is what it was that v0 here initially off the sled, making use of the fact that the sled comes to a stop at the time that the fuel is all used up.

That means that our final velocity over here is 0.

We'll bring v0 to the other side, and then we get to minus u l n.

And the rocket mass, by then it's just the dry mass-- n0 over 2n0.

And that, of course, cancels out here.

And we can say that is plus u l n of 2.

So that was the velocity that the sled was going with.