So now that we've combined pulley A, string 2, platform, and washer as our system, we can now address our question.

If we measure the acceleration of the person, what is the force that the person pulls the rope down with?

Well, of course, that will just be the tension in the string.

And with this simple system, we can now apply Newton's second law, F equals ma.

But recall, we need some directions.

So suppose we expect that the acceleration of the platform and person is up.

So we'll choose a unit vector j hat in the positive direction.

And now the problem becomes tension one, three different tensions, 3T1, and gravitational force minus mp plus mw times g.

Now, what is the mass that we have to consider?

Again, what is the mass of our system?

Well, the platform and the person, and we assume the pulley and the string, too, were massless.

So we have simply mp plus mw a.

And so we can now solve for the tension in the string, which is equal to mp plus mw times g plus a divided by 3.

And recall that this tension, that the string is pulling, this is what we called the force that the person [? of ?] the string on the person.

And by Newton's third law, that's also, on the washer, that's also the force that the washer applies to string 1.

So this was our goal.

It's the force that the washer applies to string 1 by the third law.

And so by thinking about how to choose a system, what could be a very complicated problem, with lots of equations, is simply one equation.