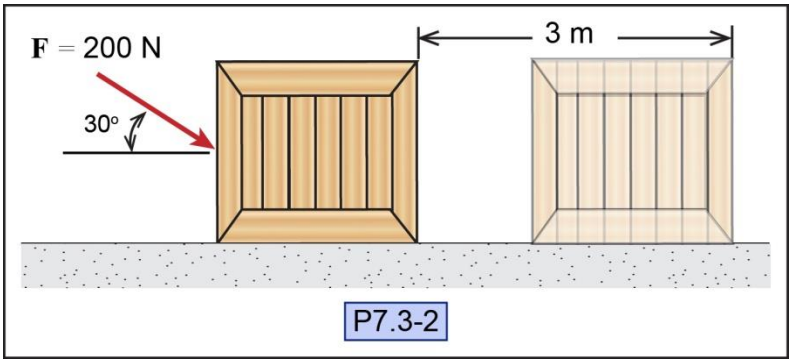
P7.3-2)[fe] A 50-kg crate is moved from rest by a 200-N force applied at an angle of 30 degrees as shown. If the coefficient of kinetic friction between the crate and the ground is 0.20, determine the velocity of the crate after it has moved 3 m to the right.



P7.3-2

Given:

Find:

Solution:

Is this a conservative or non-conservative system?

Conservative Non-conservative

Label your states on the figure attached to the problem statement.

Draw a free-body diagram of the crate.

Calculate the kinetic friction force.

F_{fk} = _____

Use the work-energy balance to determine the velocity.

v = _____