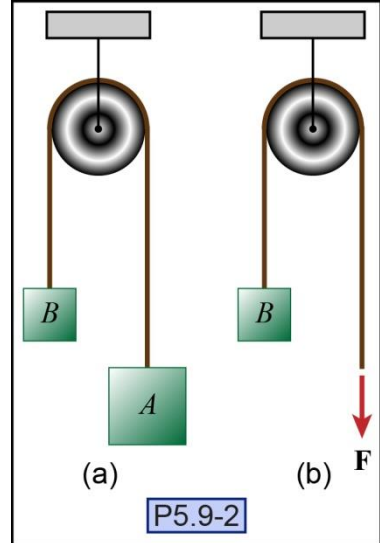


P5.9-2) The accompanying figure shows two pulley systems. Case (a) shows two blocks connected by a rope which rides along a frictionless and weightless pulley. Case (b) shows a similar system except that block A has been replaced by force F . In both cases, determine the acceleration of block B. The physical parameters of the system are as follows: weight of block A equals 50 lb, weight of block B equals 20 lb and force F is 50 lb.



Given:

Find:

Solution:

FBD

Draw a free-body diagram for the two blocks in case (a).

FBD

Draw a free-body diagram for the block in case (b).

Equation of Motion

Determine the acceleration of the blocks.

Equation of Motion

Determine the acceleration of the block.

$a =$ _____

$a =$ _____