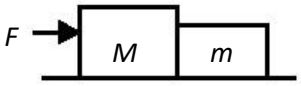
Quiz 2

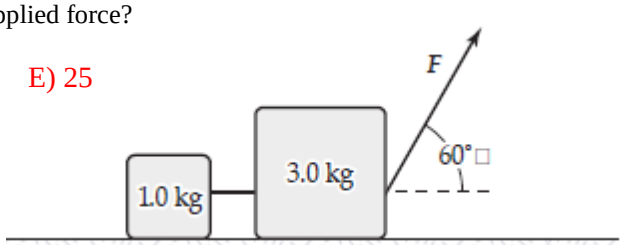
Q1) A block of mass M = 6.00 kg is in contact with another block of mass m = 4.00 kg on a frictionless surface, as shown in the Figure. The M block is being pushed by a 20.0-N force toward the m block. What is the magnitude of the force of the M block on the m block?

A) 6.00 N B) 12.0 N C) 8.00 N D) 10.0 N E) 4.00 N



Q2) Two blocks connected by a string are pulled across a horizontal surface by a force applied to one of the blocks, as shown. The coefficient of kinetic friction between the blocks and the surface is 0.25. If each block has an acceleration of 2.0 m/s^2 to the right, what is the magnitude F of the applied force?

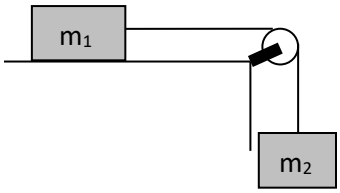
A) 7.0 B) 18 C) 11 D) 14 E) 25



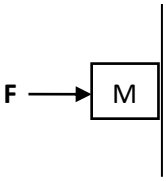
Q3) In the figure the coefficient of kinetic friction between the mass m_1 and the horizontal surface is $\mu_k = 0.10$ and m_1 = 6.0 kg, m_2 = 2.0 kg. The acceleration of the system (in m/s^2) is:

A) 2.45 B) 1.72 C) 1.30

D) 3.9 E) 10.25



Q4) In the figure shown, the coefficient of static friction between the mass M and the vertical wall is $\mu_s = 0.20$. Given that M = 2.0 kg, determine the minimum value of the horizontal force **F** required to keep the mass M stationary.



A) 98 B) 20 C) 4

D) 47 A) 0