

Mathematics Questions by Topics

Motion and Force

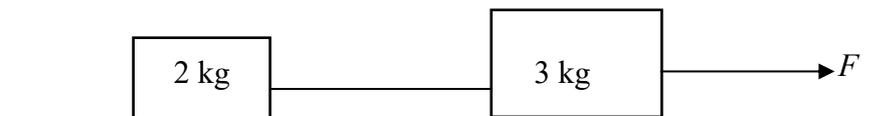
Question 41

Source: K9SM2Q22

Question 41

Two boxes of masses 2 kg and 3 kg are connected by a light horizontal string and are on a horizontal table, as shown in the diagram below. The coefficient of friction between both boxes and the table is $\frac{1}{7}$. The 3 kg box is pulled by a force of F , parallel to the table.

Which of the following is true?



- A. If $F > 7$ newtons, the boxes move with constant acceleration.
- B. If $5 < F < 7$ newtons, the boxes are on the point of moving.
- C. If $F = 7$ newtons, the boxes move with constant velocity.
- D. If $F > 7$ kg-wt, the boxes move with constant velocity.
- E. If $F = 7$ kg-wt, the boxes are not on the point of moving.