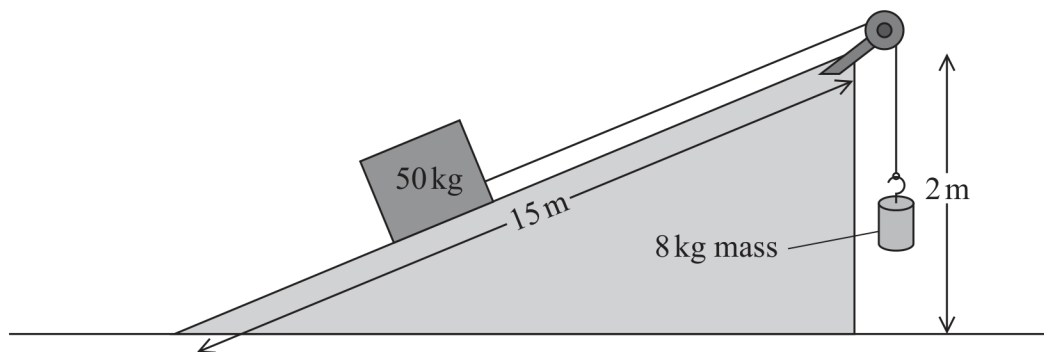


- 12 Machines make work easier by changing the size or direction of a force. A student designed a simple machine to lift a box of mass 50 kg . The student claimed the efficiency of the machine was greater than 90% .

The machine used a slope of height 2.0 m and length 15 m to move the box. The box was connected to an 8.0 kg mass by a rope over a pulley as shown. As the 8.0 kg mass fell, the box moved up the slope at a steady speed.



Determine whether the maximum efficiency of the machine was greater than 90% .

(4)

(Total for Question 12 = 4 marks)