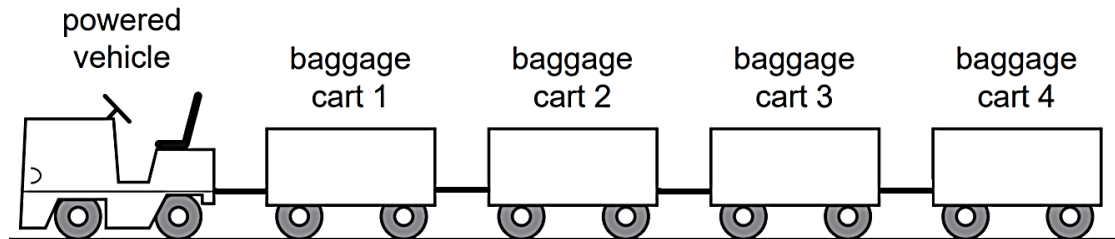


- 3 A transport system used to move luggage from the airport terminal to the aircraft consists of a powered vehicle connected to four baggage carts by a series of connecting bars.



The mass of each of the baggage carts is 400 kg and the system starts with an acceleration of  $2.0 \text{ m s}^{-2}$ .

Ignore any frictional forces on the carts.

What is the tension in the connecting bar between baggage carts 2 and 3?

- A** 400 N                      **B** 800 N                      **C** 1200 N                      **D** 1600 N

- 4 A small ball P moves with speed  $v$  towards another identical ball Q along a line joining