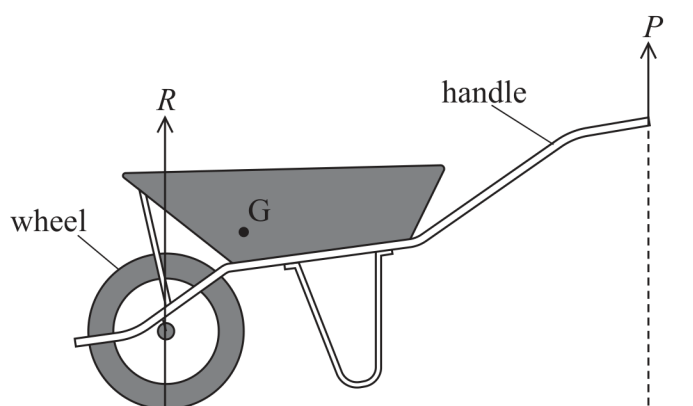


- 13 A woman supports a stationary wheelbarrow by exerting an upward force P on the handles. An upward force R from the ground acts on the wheel, as shown.

The centre of gravity G of the wheelbarrow is marked on the diagram.



(Source: © Cavan Images/Alamy Stock Photo)



- (a) Explain, by considering moments about G , why P is less than R .

(3)

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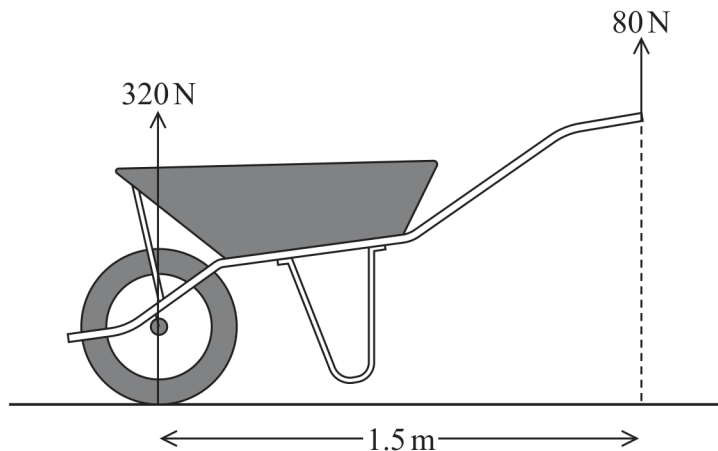
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- (b) The horizontal distance between the centre of the wheel and the handles is 1.5 m.
The magnitudes of P and R are as shown.



Determine the horizontal distance between the centre of gravity of the wheelbarrow and the centre of the wheel.

(4)

Horizontal distance =

(Total for Question 13 = 7 marks)