

Physics - Key Stage 4 - Forces

Moments and Levers

Mr Saville



OAK
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Independent Practice - You Do

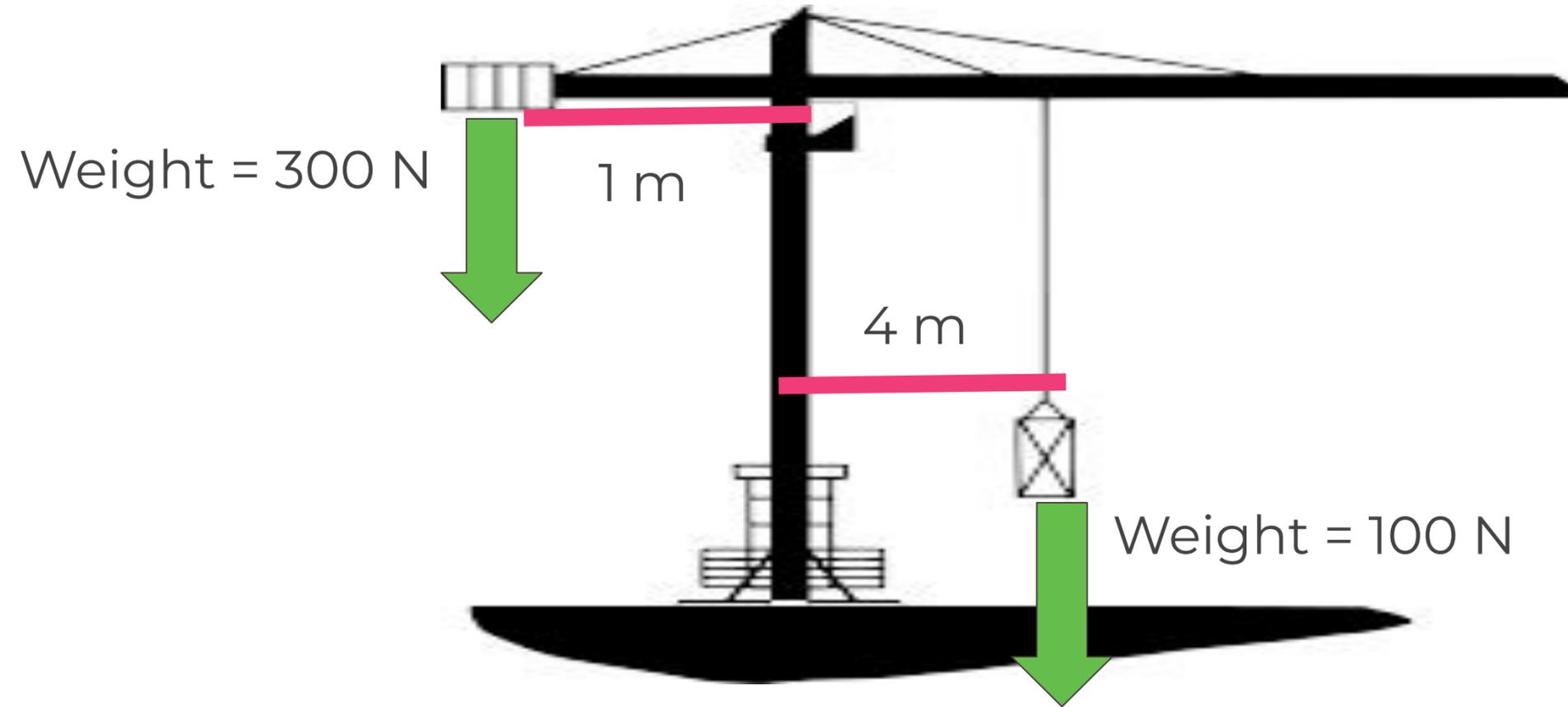
- 1) A force of 60 N is applied to a door, 0.4 m from the pivot. Calculate the moment of the force
- 2) A force of 623 N is applied to a car wheel that is 0.3 m from the pivot. Calculate the moment of the force. Give your answer to 3 significant numbers.
- 3) A crane applies a 7 kN force on a load that is 50m from the pivot. Calculate the moment of the force.
- 4) A boy with a weight of 700 N sits on a seesaw 120 cm away from the pivot. Calculate the moment of the force.
- 5) A force of 1.2 kN is applied on a load that is 234 cm away from the pivot. Calculate the moment of the force.



Independent Practice - Answers

- 1) A crane carries a load of 1000 N and creates a moment of 12000 Nm. Calculate the perpendicular distance of the load from the pivot.
- 2) A fork-lift truck with a load of 3 kN causes a moment of 6000 Nm. Calculate the distance from the pivot.
- 3) A spanner tightens a bolt with a moment of 240 Nm. Calculate the force needed to loosen the bolt when you hold the spanner 40 cm away from the pivot.





You do: Is this crane balanced?

Clockwise Moment = Anticlockwise Moment

