

Questions on Balancing Moments

1. A 100 N child sits 2.0 m from the pivot on the left of a seesaw. A 200 N child sits on the right. How far from the pivot must the 200 N child sit to balance the seesaw?
2. A 300 N child sits 1.0 m from the pivot on the left of a seesaw. A 150 N child sits on the right. How far from the pivot must the 150 N child sit to balance the seesaw?
3. A 60 N school bag is placed 1.5 m from the pivot on one side of a bench. An 90 N sports bag is placed on the other side. How far from the pivot must the sports bag be placed to balance the bench?
4. A 400 N adult sits 0.75 m from the pivot on one side of a seesaw. A 250 N child sits on the other side. How far from the pivot must the child sit to balance the seesaw?
5. A 120 N crate is placed 0.80 m from the pivot on the left of a plank. A second crate is placed 1.6 m from the pivot on the right. What must the weight of the second crate be to balance the plank?
6. A 180 N child sits 1.5 m from the pivot on the left of a seesaw. Another child sits 2.0 m from the pivot on the right. What force must the second child produce to balance the seesaw?
7. Two shopping bags hang from the same side of a trolley handle. One bag weighs 50 N and is 0.40 m from the pivot. The other weighs 30 N and is 0.60 m from the pivot. Calculate the total moment from the two bags.
8. A plank is balanced on a brick. On the left side, a 100 N paint tin is 0.50 m from the pivot and a 60 N toolbox is 1.0 m from the pivot. A person pushes down on the right with a force of 110 N. How far from the pivot must they push to balance the plank?
9. A seesaw has two children on the left. One child weighs 300 N and sits 1.0 m from the pivot. The other weighs 200 N and sits 1.5 m from the pivot. An adult weighing 600 N sits on the right. How far from the pivot must the adult sit to balance the seesaw?
10. A market stall sign is balanced on a central support. On the left, a 40 N decoration is 0.75 m from the support and a 60 N lamp is 1.2 m from the support. A 90 N weight is placed on the right. How

far from the support must the weight be placed to balance the sign?