

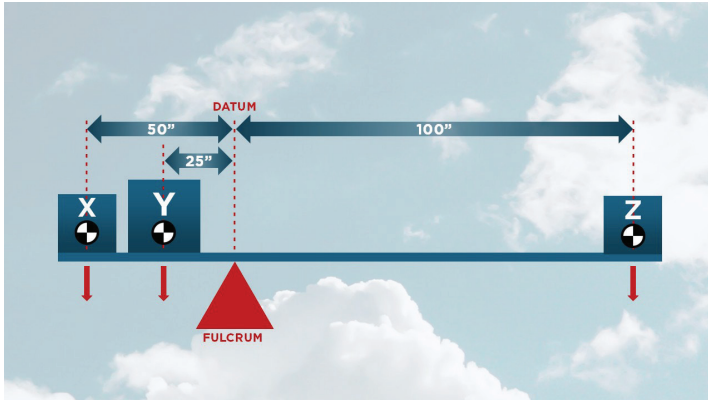
BALANCE BEAM

Name: _____

Use the moment formula to calculate the required weights and distances to keep the plank balanced in the problems below.

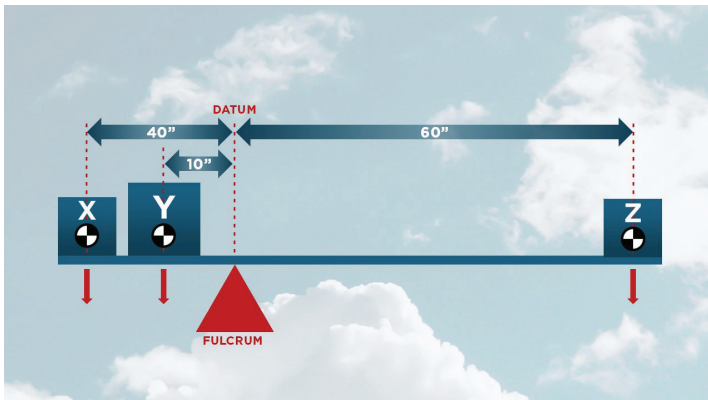
WEIGHT X ARM (DISTANCE) = MOMENT

1.



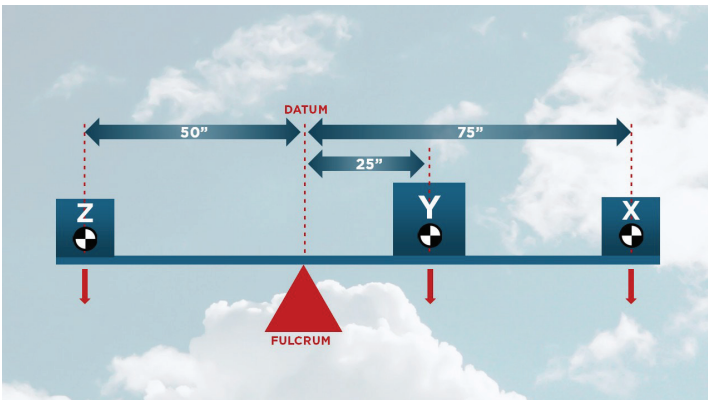
If a 2-pound weight is located at point X and 4 pounds at point Y, how much weight must be located at point Z in order to balance the plank?

2.



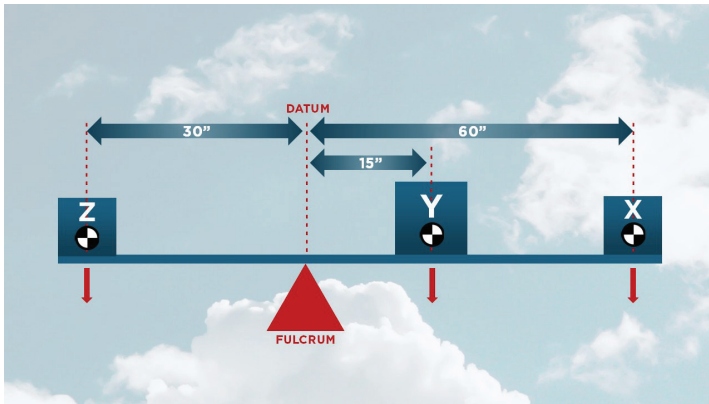
If a 4-pound weight is located at point X and 5 pounds at point Y, how much weight must be located at point Z in order to balance the plank?

3.



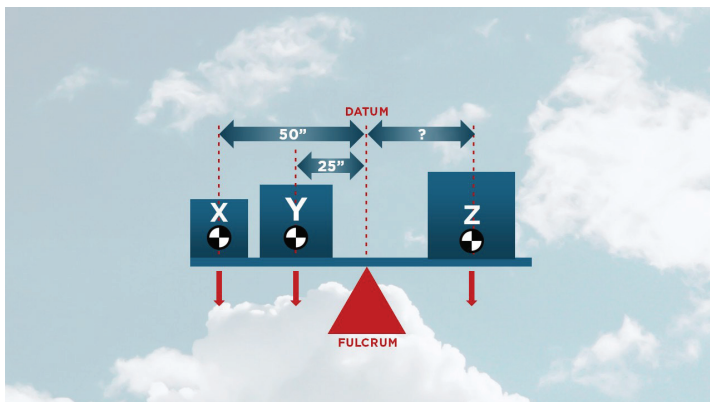
If a 4-pound weight is placed 75 inches right of the fulcrum along with a 6-pound weight 25 inches to the right of the fulcrum, what weight must be placed 50 inches left of the fulcrum to balance the plank?

4.



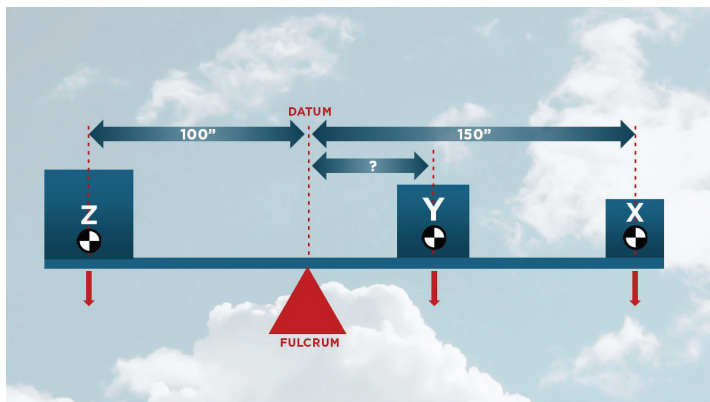
If a 3-pound weight is placed 60 inches to the right of the fulcrum along with a 10-pound weight 30 inches to the left of the fulcrum, how much weight needs to be located 15 inches to the right of the fulcrum to keep the plank balanced?

5.



A 4-pound weight is placed 50 inches to the left of the fulcrum, with a 6-pound weight 25 inches to the left as well. How far must a 10-pound weight be placed to the right of the fulcrum to keep the plank balanced?

6.



If a 3-pound weight is placed 150 inches to the right of the fulcrum with a 6-pound weight 100 inches to the left, how far should a 4-pound weight be placed to the right of the fulcrum to keep the plank balanced?