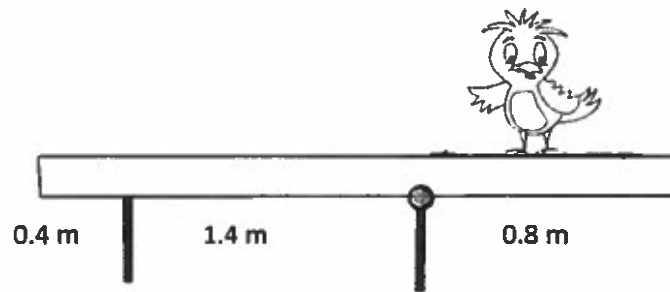Example: Consider a 0.75 kg board of length 2.6 m that initially rests on two supports as shown bellow. What maximum distance `x` can a 1.2 kg bird walk before the beam begins to leave the left-hand support?

0.4 m   1.4 m   0.8 m

Example: Two people support a plank of length 3.0m and weight 200N as shown below. Their 500N friend is sitting on the plank 1.0 m from the end. Determine the force exerted by each person.