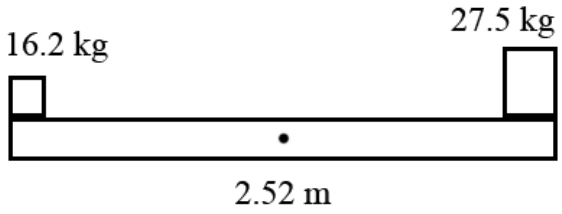
Question #78468, Physics / Other

A 16.2 kg kid & a 27.5 kg kid are at opposite ends of a 2.52 m long 51.3 kg see-saw, with the fulcrum at the center. You want to add a mass of 29 kg to the see-saw to balance it. How far from the smaller kid should you put it, in meters?

Solution



Let *x* represent the distance that must be determined.

$\sum M = 0;$

$16.2 \times 1.26 - 27.5 \times 1.26 + 29 \times (1.26 - x) = 0;$

Solving for *x*, obtaining *x* = 0.77

Answer: the mass must be placed at 0.77 m from the smaller kid.