A 182 cm tall person lies on a board of negligible mass which is supported by two scales, one directly under their head and their feet. The scales read 37.2 kg and 32.8 kg respectively. How far is the person's center of mass from their feet?



$$
\begin{aligned}
& \tau_{C}=\tau_{C C} \\
& F_{N_{1}}(1.82-x)=F_{N_{2}} x \\
& 1.82 F_{N_{1}}-F_{N_{1} x}=F_{N_{2} x} \\
& 1.82 F_{N_{1}}=F_{N_{1} x}+F_{N_{2} x} \\
& 1.82 F_{N_{1}}=x\left(F_{N_{1}}+F_{N_{2}}\right) \\
& x=\frac{1.82 F_{N_{1}}}{\left(F_{N_{1}}+F_{N_{2}}\right)}=\frac{1.82(364.56 \mathrm{~N})}{(364.56+321.44)} \\
& =0.97 \mathrm{~m}
\end{aligned}
$$

