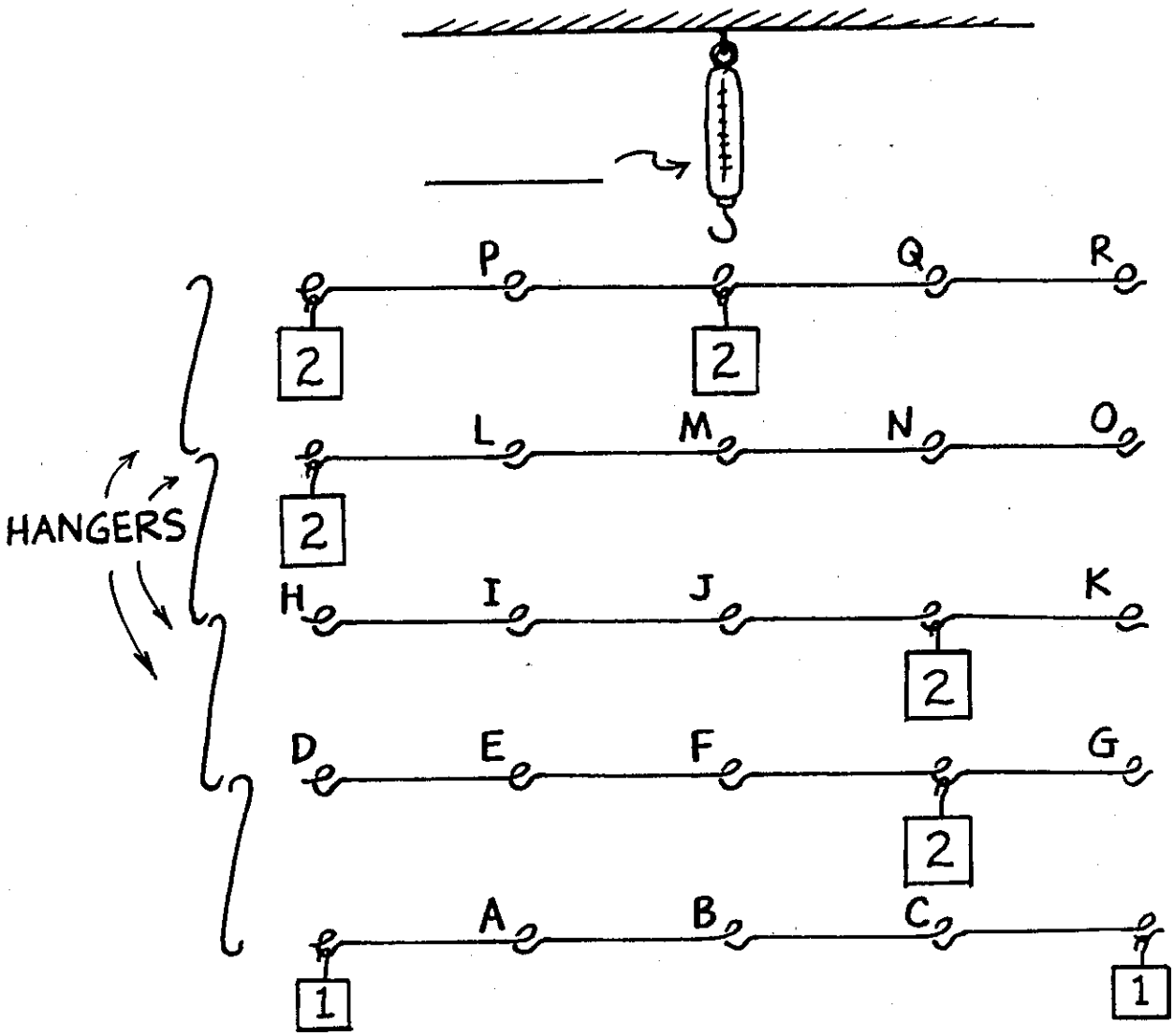
Name Period Date

Concept-Development Practice Page 11-1

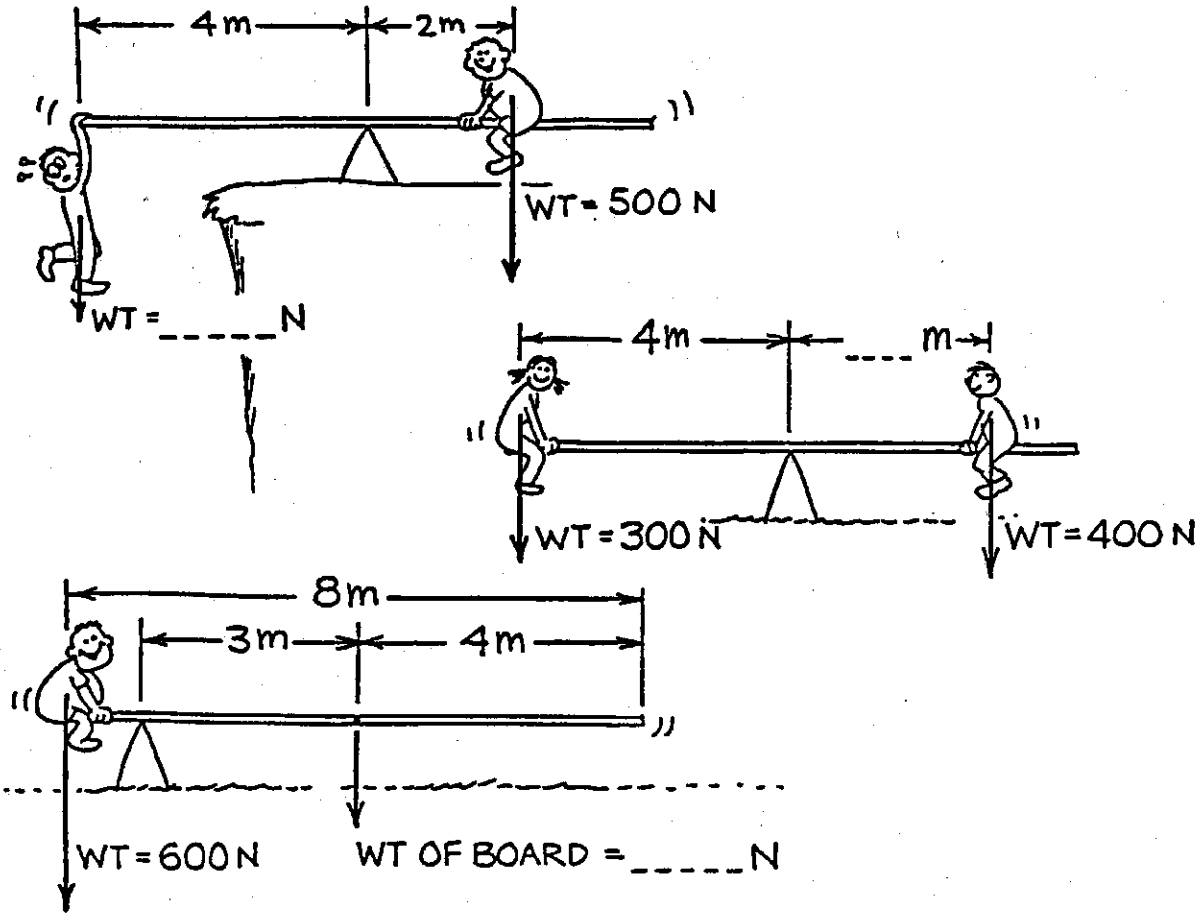
Torques

1. Apply what you know about torques by making a mobile. Shown below are five horizontal arms with fixed 1- and 2-kg masses attached, and four hangers with ends that fit in the loops of the arms, lettered A through R. You are to figure where the loops should be attached so that when the whole system is suspended from the spring scale at the top, it will hang as a proper mobile, with its arms suspended horizontally. This is best done by working from the bottom upward. Circle the loops where the hangers should be attached. When the mobile is complete, how many kilograms will be indicated on the scale? (Assume the horizontal struts and connecting hooks are practically massless compared to the 1- and 2-kg masses.) On a separate sheet of paper, make a sketch of your completed mobile.



Conceptual PHYSICS

2. Complete the data for the three seesaws in equilibrium.



3. The broom balances at its CG. If you cut the broom in half at the CG and weigh each part of the broom, which end would weigh more?

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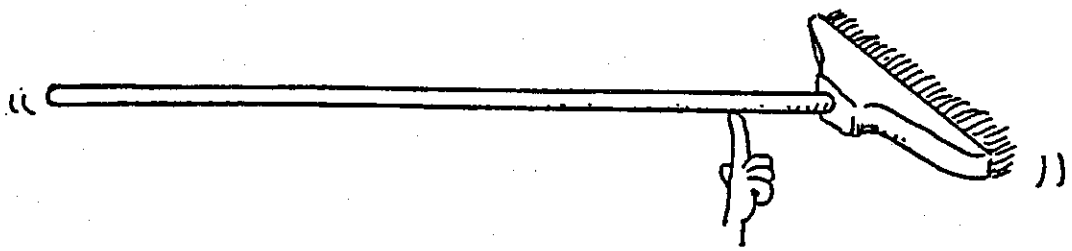

Explain why each end has or does not have the same weight? (Hint: Compare this to one of the seesaw systems above.)

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