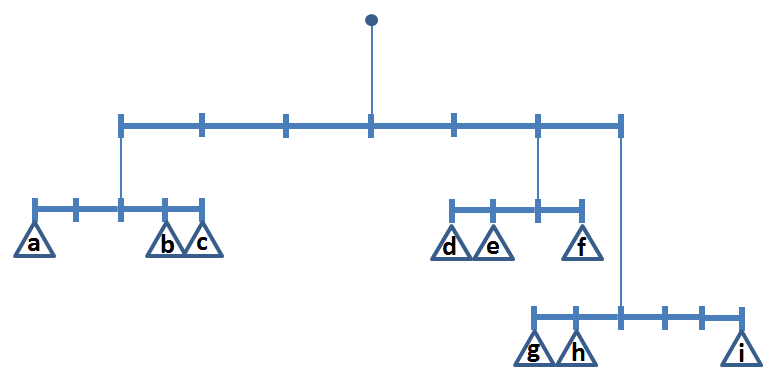
**February 2013 - Chandelier Balancing**



Constructing a chandelier can be a tricky undertaking because the slightest imperfection will unbalance the chandelier and cause it to be skewed.

Figure 1 shows a chandelier constructed from arms, wires, and triangles that hold weights.  In order to perfectly balance the chandelier, weights must be placed into the triangles.  There are 9 weights as follows: 1,2,3,4,5,6,7,8,9kg.  Each triangle can only hold one weight.  Assume the weight of the arms, wires, and triangles are negligible.

**Question:  Where should the weights be placed in order to perfectly balance the chandelier?**