

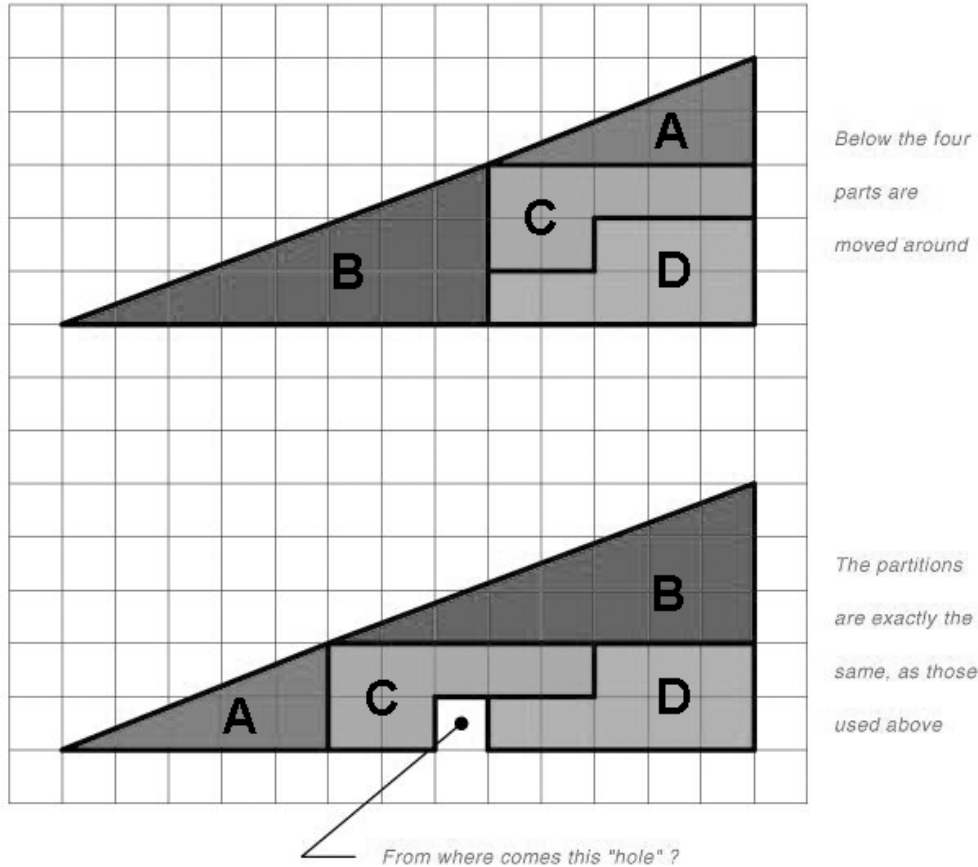


Neurological Nasties VI

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1. *HOW CAN THIS BE TRUE ?*



2.

$$\begin{aligned} \blacklozenge \spadesuit \spadesuit \spadesuit &= \clubsuit \clubsuit \\ \blacklozenge \spadesuit \spadesuit \blacklozenge \blacklozenge &= \clubsuit \clubsuit \clubsuit \\ \clubsuit \clubsuit \clubsuit \clubsuit \clubsuit &= \spadesuit \spadesuit \spadesuit \spadesuit \spadesuit ? \end{aligned}$$

The top two equations are in perfect balance. How many diamonds will be needed to balance the third equation ?

3. Pythagorus has thought of a number between 13 and 1300. Euclid is trying to guess it. Euclid asks "Is the number below 500 ?" Pythagorus says "yes". Euclid asks "Is the number a perfect cube ?" Pythagorus says "yes". Euclid asks "Is the number a perfect square ?" Pythagorus says "yes". Pythagorus then says "Only two of my answers are correct and the number starts with a 5, 7 or 9."