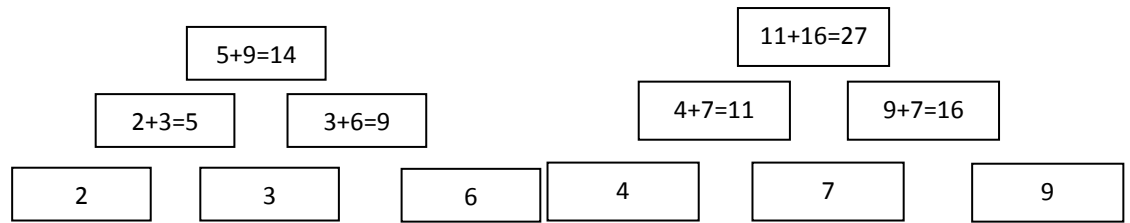


I am considering two pyramids as an example for the solution

Question 1.



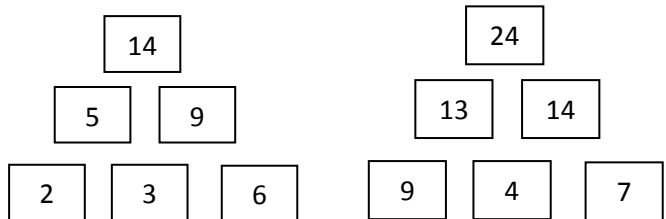
Answer: Yes

Explanation: The middle layer is a sum of 2 bottom immediate numbers and the top layer is the sum of 2 middle layer numbers.

Question 2. Answer: Yes

Explanation: The top number is the sum of the two corner bottom numbers added with twice of the middle bottom number. Example a: $(2+6)+2 \times 3=14$

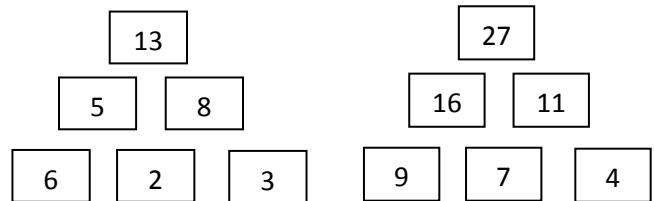
Example b: $(9+7)+2 \times 4=24$



Question 3. Answer: Yes

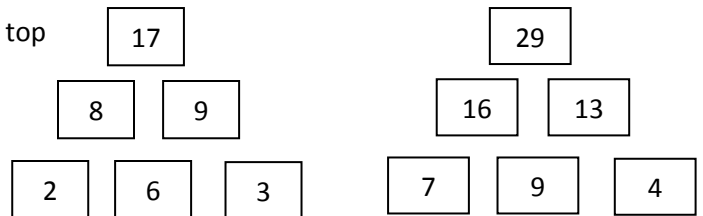
Explanation: Because the order of operation has changed. Example a: $(3+6)+2 \times 2=13$

Example b: $(9+4)+2 \times 7=27$



Question 4.

Explanation: To get the largest possible number at the top By placing the largest number in the middle of the bottom layer.



Question 5. Answer: Yes

Explanation: Split the top number however you want for the middle layer and then split them again for the bottom layer so that the middle bottom number is common for both the sums.

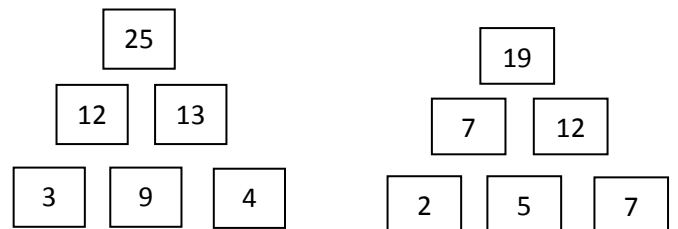
Example a: $25=12+13$ Example b: $19=7+12$

$12=3+9$

$7=2+5$

$13=4+9$

$12=7+5$



Question 6. Answer: Yes

Explanation: Yes the logic also applies to larger pyramids.

