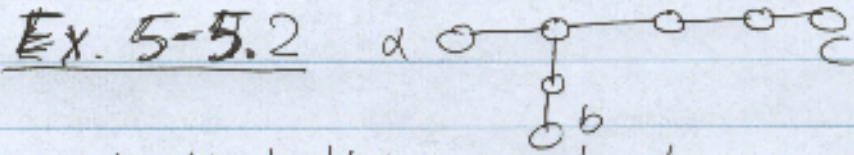
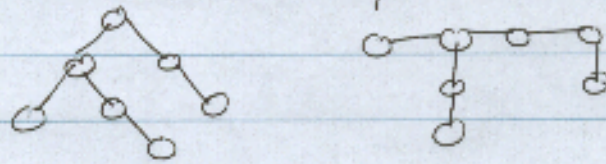


For $n=7$, the answer is:

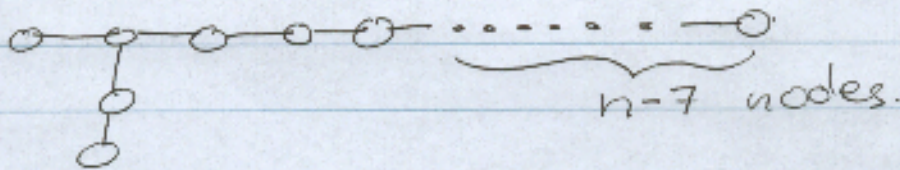


Note that this can be drawn with several other ways:



I can show that for $n > 7$, I can create one graph with the required property.

For $n > 7$, add $n-7$ nodes at the end of the node c.



[Note: your answer should be more formal than this.]