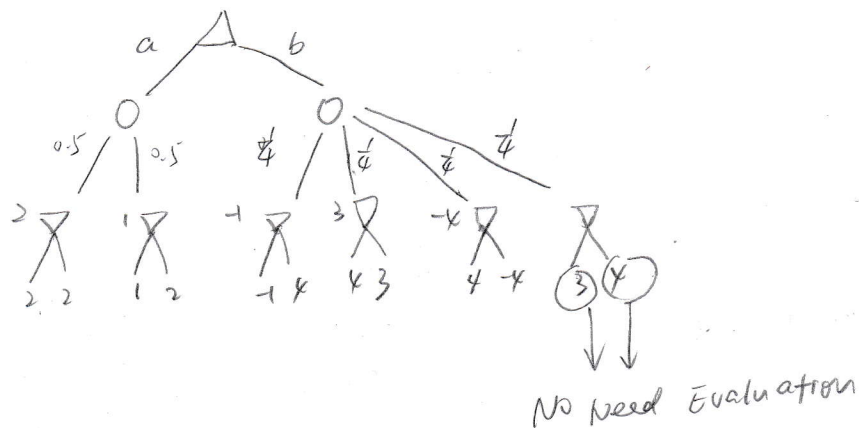d) [4 Points] Circle all the leaves that need not be evaluated assuming the evaluation order of left-to-right. Explain why.

No Need Evaluation

The 11th and 12th node need no evaluation.

When evaluating the 10th Node which is $-x$, we get

$a = 1.5$

$b = (-1 + 3 - x) \times \frac{1}{4} = -\frac{1}{2}$

The largest value b can get is $-\frac{1}{2} + x \times \frac{1}{4} = \frac{1}{2} < 1.5$

Therefore there's no need to evaluate rest of leaves. a is the best choice.