15. The equation $x^2 + ax + b = 0$, where a and b are different, has solutions $x = a$ and $x = b$. How many such equations are there?

A 0 B 1 C 3 D 4 E an infinity

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15. B If a, b are roots of $x^2 + ax + b = 0$ then $x^2 + ax + b = 0$ must be $(x - a)(x - b) = 0$. As $(x - a)(x - b) = x^2 + (-a - b)x + ab$ then $a = -a - b$ and $b = ab$. If $b = 0$ we see immediately that $a = 0$. But this is not possible as a and b are different. If $b \neq 0$ then $a = 1$ and $b = -2$. So there is just one solution pair.