

ابسط العدد E:

$$\begin{aligned}
 E &= \frac{a^2 + 2a + 2a\sqrt{b} + b + 2\sqrt{b}}{a^2 - a + a\sqrt{b} - \sqrt{b}} \\
 &= \frac{a^2 + 2a\sqrt{b} + \sqrt{b}^2 + 2a + 2\sqrt{b}}{a(a-1) + \sqrt{b}(a-1)} \\
 &= \frac{(a + \sqrt{b})^2 + 2(a + \sqrt{b})}{(a-1)(a + \sqrt{b})} \\
 &= \frac{\cancel{(a + \sqrt{b})}[(a + \sqrt{b}) + 2]}{(a-1)\cancel{(a + \sqrt{b})}} \\
 E &= \frac{a + \sqrt{b} + 2}{a-1}
 \end{aligned}$$

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