

$$\textcircled{1} \quad \frac{-b}{ra} = \frac{-b}{-t} = \left(\frac{b}{r}\right) \Rightarrow \frac{-bt}{r} + \frac{rb^2}{r} + r = r \Rightarrow \frac{b^2}{r} = r \quad \textcircled{2}$$

$$\Rightarrow b^2 = r^2 \Rightarrow b = \pm r \quad \checkmark$$

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$$\textcircled{2} \quad \text{جواب ندارد.} \quad \checkmark \quad x^2 = t \Rightarrow t^2 + 2t + r = 0 \Rightarrow \Delta < 0 \Rightarrow \checkmark$$

$$\textcircled{3} \quad (r - x^2) = t \Rightarrow x^2 - 2x - 1 = 0 \Rightarrow (x + 1)(x - 3) = 0$$

$$\Rightarrow \begin{cases} r - x^2 = -r \Rightarrow x^2 = r \Rightarrow x = \pm \sqrt{r} \quad \checkmark \\ r - x^2 = 0 \Rightarrow x^2 = -1 \Rightarrow \text{جواب ندارد} \end{cases}$$

$$\textcircled{4} \quad \alpha, \alpha + r \Rightarrow s = ra + r = \frac{19}{r} = r \Rightarrow \alpha = 1, \alpha + r = r \quad \textcircled{2}$$

$$p = r \times 1 = r = \frac{m}{r} \Rightarrow \boxed{m = 1r} \quad \checkmark$$

$$\textcircled{5} \quad \frac{1}{r} \alpha - \frac{1}{r} \beta + r \alpha + r \beta = \frac{r}{r} (\alpha - \beta) + \frac{1}{r} (\alpha + \beta) = 0$$

$$s = \frac{r}{r} = r, p = \frac{m-1}{r} \Rightarrow \frac{r}{r} \sqrt{r^2 - \frac{r(m-1)}{r}} + \frac{1}{r} \times r = r$$

$$= \sqrt{r^2 - \frac{r(m-1)}{r}} = r \times \frac{r}{r} = r$$

$$\Rightarrow r - \frac{r(m-1)}{r} = r \Rightarrow \frac{r(m-1)}{r} = 0 \Rightarrow \boxed{m = 1} \quad \checkmark$$

$$\textcircled{6} \quad \frac{m^2 - r}{-m} = 1 \Rightarrow m^2 + m - r = 0 \Rightarrow (m-1)(m+r) = 0$$

$$\Rightarrow m = \textcircled{1}, \textcircled{-r} \quad \Delta = 0$$

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