

Найдите все значения параметра a , при каждом из которых система уравнений

$$\begin{cases} \frac{(y^2 - xy - 4y + 2x + 4)\sqrt{x+4}}{\sqrt{5-y}} = 0, \\ a = x + y \end{cases}$$

$$\begin{aligned} y &= 2 \\ x &\in \mathbb{R} \end{aligned}$$

$$\begin{aligned} y &\neq 2 \\ x &= y - 2 \\ y &= x + 2 \end{aligned}$$

имеет единственное решение.

$$\begin{aligned} 5 - y &> 0 \\ y &< 5 \end{aligned}$$

$$\begin{aligned} x + 4 &\geq 0 \\ x &\geq -4 \end{aligned}$$

$$\begin{aligned} y^2 - xy - 4y + 2x + 4 &= 0 \\ y^2 - x(y-2) - 4y + 4 &= 0 \\ x = (y^2 - 4y + 4)/(y-2) \\ x = (y-2)^2/(y-2) \end{aligned}$$

$$\begin{aligned} a = y - 2 + y &= 2y - 2 \\ y &= (a+2)/2 \end{aligned}$$

$$\begin{aligned} (a+2)/2 &< 5 \\ a+2 &< 10 \\ a &< 8 \end{aligned}$$

$$\begin{aligned} a &= x + x + 2 \\ a &= 2x + 2 \\ x &= (a-2)/2 \end{aligned}$$

$$\begin{aligned} (a-2)/2 &\geq -4 \\ (a-2) &\geq -8 \\ a &\geq -6 \end{aligned}$$