

renvitu 13

次の連立方程式を解け。

$$\begin{cases} \frac{1}{x-1} + \frac{3}{x+2y} = 5 \\ \frac{4}{x-1} - \frac{2}{x+2y} = -1 \end{cases}$$

ok

[早稲田実業系属早稲田実業]

逆数で考えよう問題

point

$$\frac{1}{x-1} = a \quad \frac{1}{x+2y} = b \text{ とおくと}$$

$$\begin{cases} a + 3b = 5 \\ 4a - 2b = -1 \end{cases}$$

より

$$\begin{array}{r} 4a + 12b = 20 \\ -) \quad 4a - 2b = -1 \\ \hline 14b = 21 \\ b = \frac{3}{2} \end{array}$$

$$\begin{array}{r} 4a - 3 = -1 \\ 4a = 2 \\ a = \frac{1}{2} \end{array}$$

$$\frac{1}{x-1} = \frac{1}{2}$$

$$\frac{1}{x+2y} = \frac{3}{2} \quad \text{より}$$

$$x-1 = 2$$

$$x+2y = \frac{2}{3}$$

$$x = 3$$

$$3 + 2y = \frac{2}{3}$$

$$9 + 6y = 2$$

$$6y = -7$$

$$y = -\frac{7}{6}$$

$$\underline{(x, y) = \left(3, -\frac{7}{6}\right)}$$