치환형 분수방정식 예제
(Example of Substitutional Fractional Equations)

Example of Substitutional Fractional Equations

Start End

Example of Substitutional Fractional Equations

Start End

$$\frac{x^2-2x-1}{3} = \frac{1}{x-2} - \frac{1}{x} \cdots (1)$$

$$\frac{x^2-2x-1}{3} = \frac{1}{x-2} - \frac{1}{x} \quad \cdots (1)$$

$$\frac{x^2-2x-1}{3} = \frac{2}{x^2-2x}$$

$$\frac{x^2-2x-1}{3} = \frac{1}{x-2}-\frac{1}{x} \quad \cdots(1)$$

$$\frac{x^2-2x-1}{3} = \frac{2}{x^2-2x}$$

$$\text{Let } t = x^2-2x$$

$$\frac{x^2-2x-1}{3} = \frac{1}{x-2}-\frac{1}{x} \quad \cdots(1)$$

$$\frac{x^2-2x-1}{3} = \frac{2}{x^2-2x}$$

$$\text{Let } t = x^2-2x$$

$$\frac{t-1}{3} = \frac{2}{t}$$

$$\frac{x^2-2x-1}{3} = \frac{1}{x-2}-\frac{1}{x} \quad \cdots(1)$$

$$\frac{x^2-2x-1}{3} = \frac{2}{x^2-2x}$$

$$\text{Let } t = x^2-2x$$

$$\frac{t-1}{3} = \frac{2}{t}$$

$$t^2-t-6 = 0$$

$$\frac{x^2-2x-1}{3} = \frac{1}{x-2}-\frac{1}{x} \quad \cdots(1)$$

$$\frac{x^2-2x-1}{3} = \frac{2}{x^2-2x}$$

$$\text{Let } t = x^2-2x$$

$$\frac{t-1}{3} = \frac{2}{t}$$

$$t^2-t-6 = 0 \qquad t=3,-2$$

$$\frac{x^2-2x-1}{3} = \frac{1}{x-2}-\frac{1}{x} \quad \cdots(1)$$

$$\frac{x^2-2x-1}{3} = \frac{2}{x^2-2x}$$

$$\text{Let } t = x^2-2x$$

$$\frac{t-1}{3} = \frac{2}{t}$$

$$t^2-t-6 = 0 \qquad t=3,-2$$

$$x^2-2x=3, \quad x^2-2x=-2$$

$$\frac{x^2-2x-1}{3} = \frac{1}{x-2}-\frac{1}{x} \quad \cdots(1)$$

$$\frac{x^2-2x-1}{3} = \frac{2}{x^2-2x}$$

$$\text{Let } t = x^2-2x$$

$$\frac{t-1}{3} = \frac{2}{t}$$

$$t^2-t-6 = 0 \qquad t=3,-2$$

$$x^2-2x=3,\ \ x^2-2x=-2 \qquad x=3,\ -1,\ 1+i,\ 1-i$$

Start End

$$\frac{x^2-2x-1}{3} = \frac{1}{x-2}-\frac{1}{x} \quad \cdots(1)$$

$$\frac{x^2-2x-1}{3} = \frac{2}{x^2-2x}$$

$$\text{Let } t = x^2-2x$$

$$\frac{t-1}{3} = \frac{2}{t}$$

$$t^2-t-6 = 0 \qquad t=3,-2$$

$$x^2-2x=3,\ \ x^2-2x=-2 \qquad x=3,\ -1,\ 1+i,\ 1-i$$

(1)식의 분모를 0을 만들지 않으므로

Start End

$$\frac{x^2-2x-1}{3} = \frac{1}{x-2}-\frac{1}{x} \quad \cdots(1)$$

$$\frac{x^2-2x-1}{3} = \frac{2}{x^2-2x}$$

$$\text{Let } t = x^2-2x$$

$$\frac{t-1}{3} = \frac{2}{t}$$

$$t^2-t-6 = 0 \qquad t=3,-2$$

$$x^2-2x=3,\ \ x^2-2x=-2 \qquad x=3,\ -1,\ 1+i,\ 1-i$$

(1)식의 분모를 0을 만들지 않으므로

$$\therefore x=3,\ -1,\ 1+i,\ 1-i$$

Github:
https://min7014.github.io/math20210213001.html

Click or paste URL into the URL search bar, and you can see a picture moving.