基本問題を確認しよう

数Ⅱ　分数式(解答)

1 $\dfrac{x^2-1}{x(x-1)(x+1)}=\dfrac{(x-1)(x+1)}{x(x-1)(x+1)}=\dfrac{1}{x}$

2 $\dfrac{1}{x+2}+\dfrac{1}{x-3}=\dfrac{x-3+x+2}{(x+2)(x-3)}=\dfrac{2x-1}{(x+2)(x-3)}$

3 (1) $\dfrac{x+3}{x^2-x-2}\times\dfrac{x^2-1}{x^2-4x-21}=\dfrac{x+3}{(x-2)(x+1)}\times\dfrac{(x-1)(x+1)}{(x-7)(x+3)}=\dfrac{1}{x-2}\times\dfrac{x-1}{x-7}$

$=\dfrac{x-1}{(x-2)(x-7)}$

(2) $\dfrac{x^2-49}{x^2+2x}\div\dfrac{x-7}{x+2}=\dfrac{(x-7)(x+7)}{x(x+2)}\times\dfrac{x+2}{x-7}=\dfrac{x+7}{x}\times\dfrac{1}{x-7}=\dfrac{x+7}{x(x-7)}$

(3) $\dfrac{1}{\dfrac{x}{x-1}-1}=\dfrac{1\times(x-1)}{\left\{\dfrac{x}{x-1}-1\right\}\times(x-1)}=\dfrac{x-1}{x-(x-1)}=x-1$