整式 6-2

次の計算をせよ。

(1) $\dfrac{3x^2}{4y^3} \times \dfrac{16y^2}{9x}$

(2) $\dfrac{x^2+2x-8}{x^2-2x-15} \times \dfrac{x+3}{x-2}$

(3) $\dfrac{x^2-y^2}{x^2-2xy+y^2} \div \dfrac{x^2+xy}{x-y}$

(4) $\dfrac{x^2-4}{x+1} + \dfrac{3}{x+1}$

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

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

(7) $\dfrac{4}{x^2+2x-8} - \dfrac{5}{x^2+3x-10}$

(1) $\dfrac{x}{y} \times \dfrac{4}{3} = \dfrac{4x}{3y}$

(2) $\dfrac{(x+4)(x-2)}{(x-5)(x+3)} \times \dfrac{x+3}{x-2} = \dfrac{x+4}{x-5}$

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

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

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

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

(7) $\dfrac{4}{(x+4)(x-2)} - \dfrac{5}{(x+5)(x-2)}$

$= \dfrac{4(x+5)-5(x+4)}{(x+4)(x-2)(x+5)}$

$= -\dfrac{x}{(x-2)(x+4)(x+5)}$