

§ 2.7 分数式の計算

問題 2.7.1

$$\frac{12a^3bc^2}{18a^2b^3d} = \frac{2ac^2}{3b^2d}.$$

問題 2.7.2

$$(1) \quad \frac{y^2 - 5y + 6}{3y^2 - 4y - 4} = \frac{(y-3)(y-2)}{(y-2)(3y+2)} = \frac{y-3}{3y+2}.$$

$$(2) \quad \frac{2t^2 - 11t - 6}{t^3 - 4t^2 - 12t} = \frac{(2t+1)(t-6)}{t(t+2)(t-6)} = \frac{2t+1}{t(t+2)}.$$

問題 2.7.3

$$\begin{aligned} \frac{x+4}{3 - \frac{4x-5}{2x+1}} &= \frac{(x+4)(2x+1)}{\left(3 - \frac{4x-5}{2x+1}\right)(2x+1)} = \frac{(x+4)(2x+1)}{3(2x+1) - \frac{4x-5}{2x+1}(2x+1)} \\ &= \frac{(x+4)(2x+1)}{6x+3 - (4x-5)} = \frac{(x+4)(2x+1)}{2x+8} = \frac{(x+4)(2x+1)}{2(x+4)} \\ &= \frac{2x+1}{2}. \end{aligned}$$

問題 2.7.4

$$\frac{\frac{5}{x-3} - \frac{3}{x}}{x^2+4} = \frac{x(x-3)\left(\frac{5}{x-3} - \frac{3}{x}\right)}{x(x-3)(x^2+4)} = \frac{5x-3(x-3)}{x(x-3)(x^2+4)} = \frac{2x+9}{x(x-3)(x^2+4)}.$$