

### 演習問題 3-2

問題 1 次の式をなるべく簡単な方法で計算せよ。

$$(1) \left(\frac{1}{7} - \frac{5}{9}\right) \times (-63) = -9 + 35 = 26$$

$$(2) \left(\frac{3}{11} + \frac{5}{13}\right) \times 429 = \left(\frac{3}{11} + \frac{5}{13}\right) \times 3 \times 11 \times 13 = (3 \times 13 + 5 \times 11) \times 3 = 94 \times 3 = 282$$

$$(3) \left(\frac{5}{3} - \frac{30}{45}\right) \times 1234 = \left(\frac{5}{3} - \frac{2}{3}\right) \times 1234 = 1234$$

$$(4) 24 \times 37.5 + 26 \times 37.5 = (24 + 26) \times 37.5 = 50 \times 37.5 = \frac{3750}{2} = 1875$$

$$(5) 997 \times 123 = (1000 - 3) \times 123 = 123000 - 369 = 122631$$

$$(6) 0.86 \times 0.74 + 0.28 \times 0.37 = 0.86 \times 0.74 + 0.14 \times 0.74 = (0.86 + 0.14) \times 0.74 = 0.74$$

$$(7) 32 \times 0.5 = 32 \times \frac{1}{2} = 16$$

$$(8) 32 \times 0.25 = 32 \times \frac{1}{4} = 8$$

$$(9) 32 \times 0.125 = 32 \times \frac{1}{8} = 4$$

$$(10) \left(\frac{5}{3} - \frac{3}{4}\right) \div 0.125 = \left(\frac{5}{3} - \frac{3}{4}\right) \times 8 = \frac{11}{12} \times 8 = \frac{22}{3}$$

問題 2 次の方程式を解け。

$$(1) \frac{x}{6} - \frac{x}{2} = 15 - 2x \quad (\text{答}) \quad x = 9$$

$$(2) \frac{x}{2} + \frac{1}{3}x = x - 3 \quad (\text{答}) \quad \frac{x}{6} = 3 \text{ より、} x = 18$$

$$(3) \frac{1}{2} - 2x = -11 - \frac{x}{12} \quad (\text{答}) \quad x = 6$$

$$(4) 36 - \frac{8x}{9} = 8 \quad (\text{答}) \quad \frac{8x}{9} = 28 \text{ より、} x = \frac{63}{2}$$

$$(5) 1 - \frac{2y}{3} + \frac{3y}{4} = 0 \quad (\text{答}) \quad 1 + \frac{y}{12} = 0 \text{ より、} y = -12$$

$$(6) 2 + \frac{4}{2x-3} = 8 \quad (\text{答}) \quad \frac{4}{2x-3} = 6 \text{ だから、} 2x-3 = \frac{2}{3}, \therefore x = \frac{11}{6}$$

$$(7) \frac{1}{x-1} - \frac{1}{x+1} = \frac{2}{3} \quad (\text{答}) \quad \frac{2}{x^2-1} = \frac{2}{3}, \text{ すなわち、} x^2-1=3, \therefore x = \pm 2$$

$$(8) 4(x+2) = \frac{1}{x+2} \quad (\text{答}) \quad (x+2)^2 = \frac{1}{4}, \text{ よって、} x+2 = \pm \frac{1}{2}, \text{ ゆえに、} x = -\frac{3}{2}, -\frac{5}{2}$$