基礎数学
演習問題２

問題１ 次のかっこをはずして簡単にせよ。

(1) $3(x-5)+5x = 8x-15$

(2) $4(x+2)-3x = x+8$

(3) $3(2a-5)-4(2a-3) = -2a-3$

(4) $4(2x-3y)+3(3x-2y) = 17x-18y$

(5) $3(2x^2-5x+1)-2(3x^2+4x-1) = -23x+5$

(6) $\frac{2}{5}(15a-20b)-\frac{5}{7}(21a+35b) = 6a-8b-15a-25b = -9a-33b$

問題２ 次の計算をせよ。

(1) $12ab^2 \times \left(-\frac{5}{8}b\right) \div \frac{5}{2}ab = -12 \times \frac{5}{8} \times \frac{2}{5}\frac{ab^3}{ab} = -3b^2$

(2) $-\frac{3}{4}x^2y \div \left(-\frac{1}{8}x\right) \div \left(-\frac{4}{3}y\right) = -\frac{3}{4} \times 8 \times \frac{3}{4}x = -\frac{9}{2}x$

(3) $\frac{4}{9}x^2 \div \left(-\frac{2}{7}xy\right) \times \left(-\frac{6}{7}y\right) = \frac{4}{9} \times \frac{7}{2} \times \frac{6}{7}x = \frac{4}{3}x$

(4) $\frac{5}{3}a^3b^2 \div \frac{5}{6}b^2 \div \left(-\frac{2}{3}a\right) = -\frac{5}{3} \times \frac{6}{5} \times \frac{3}{2}a^2 = -3a^2$

(5) $28a \div \left(-\frac{2}{3}a\right)^2 \times \frac{1}{9}ab = 28 \times \frac{9}{4} \times \frac{1}{9}b = 7b$

(6) $\left(-\frac{1}{2}x\right)^2 \div \left(-\frac{3}{2}xy\right)^2 \times (-27y^2) = -\frac{1}{9y^2} \times 27y^2 = -3$

(7) $\frac{1}{4}a^2b \times (-2bc)^3 \div \left(-\frac{1}{2}abc^2\right) = \frac{1}{4} \times 8 \times 2 \times \frac{a^2b^4c^3}{abc^2} = 4ab^3c$

(8) $-x^5y^3 \div 2x \div \left(-\frac{1}{6}xy\right)^2 = -18x^2y$

問題３ 次の各式を $\times$ や $\div$ を省略した形で表せ。

(1) $a \div 3 + b \div 4 = \frac{a}{3} + \frac{b}{4}$

(2) $(x-y) \div 2 \times a = \frac{a(x-y)}{2}$

(3) $(a+b) \div \frac{2}{3} = \frac{3(a+b)}{2}$

(4) $(x+2) \times y \div 3 = \frac{y(x+2)}{3}$