多項式の計算④　解答と解説

（1枚にしたかったので、解答を省略しています）

1 (1) $\dfrac{a+3b}{2}+\dfrac{a-2b}{3}=\dfrac{3(a+3b)}{6}+\dfrac{2(a-2b)}{6}$

$=\dfrac{3(a+3b)+2(a-2b)}{6}$

$=\dfrac{3a+9b+2a-4b}{6}$

$=\dfrac{5a+5b}{6}$

(2) $\dfrac{5x-3y}{6}-\dfrac{2x+y}{3}=\dfrac{5x-3y}{6}-\dfrac{2(2x+y)}{6}$

$=\dfrac{(5x-3y)-2(2x+y)}{6}$

$=\dfrac{5x-3y-4x-2y}{6}$

$=\dfrac{x-5y}{6}$

(3) $\dfrac{3a+2b}{4}+\dfrac{a-2b}{5}=\dfrac{5(3a+2b)}{20}+\dfrac{4(a-2b)}{20}$

$=\dfrac{5(3a+2b)+4(a-2b)}{20}$

$=\dfrac{15a+10b+4a-8b}{20}$

$=\dfrac{19a+2b}{20}$

(4) $\dfrac{2x-3y}{4}-\dfrac{2x+9y}{6}=\dfrac{3(2x-3y)}{12}-\dfrac{2(2x+9y)}{12}$

$=\dfrac{3(2x-3y)-2(2x+9y)}{12}$

$=\dfrac{6x-9y-4x-18y}{12}$

$=\dfrac{2x-27y}{12}$

(5) $\dfrac{2a-b}{2}-\dfrac{a-3b}{4}=\dfrac{2(2a-b)}{4}-\dfrac{a-3b}{4}$

$=\dfrac{2(2a-b)-(a-3b)}{4}$

$=\dfrac{4a-2b-a+3b}{4}$

$=\dfrac{3a+b}{4}$

(6) $\dfrac{3x+2y}{6}-\dfrac{3x-2y}{12}=\dfrac{2(3x+2y)}{12}-\dfrac{3x-2y}{12}$

$=\dfrac{2(3x+2y)-(3x-2y)}{12}$

$=\dfrac{6x+4y-3x+2y}{12}$

$=\dfrac{3x+6y}{12}$

$=\dfrac{x+2y}{4}$

2 解答　(1) $4x-7y$　(2) $6m+5n$　(3) $8a-4b+16$

(4) $-9a^2-15a-1$　(5) $7x-6y-13$　(6) $3a^2+a+2$

(1) $5(2x-5y)-6(x-3y)=10x-25y-6x+18y$

$=10x-6x-25y+18y$

$=4x-7y$

(2) $-8(m+2n)+7(2m+3n)=-8m-16n+14m+21n$

$=-8m+14m-16n+21n$

$=6m+5n$

(3) $2(2a+4b)+4(a-3b+4)=4a+8b+4a-12b+16$

$=4a+4a+8b-12b+16$

$=8a-4b+16$

(4) $5(a^2-3a+4)-7(2a^2+3)=5a^2-15a+20-14a^2-21$

$=5a^2-14a^2-15a+20-21$

$=-9a^2-15a-1$

(5) $3(x-4y-5)+2(2x+3y+1)=3x-12y-15+4x+6y+2$

$=3x+4x-12y+6y-15+2$

$=7x-6y-13$

(6) $4(2a^2+4a-2)-5(a^2+3a-2)=8a^2+16a-8-5a^2-15a+10$

$=8a^2-5a^2+16a-15a-8+10$

$=3a^2+a+2$