同類項をまとめる（解答と解説）

1 解答 (1) $6x+y$ (2) $-2a-6b$ (3) $4x^2+4x$ (4) $7a^2-8a$

(1) $3x-y+3x+2y=3x+3x-y+2y$
$=(3+3)x+(-1+2)y$
$=6x+y$

(2) $-4a+3b-9b+2a=-4a+2a+3b-9b$
$=(-4+2)a+(3-9)b$
$=-2a-6b$

(3) $6x^2-x-2x^2+5x=6x^2-2x^2-x+5x$
$=(6-2)x^2+(-1+5)x$
$=4x^2+4x$

(4) $8a^2-5a-3a-a^2=8a^2-a^2-5a-3a$
$=(8-1)a^2+(-5-3)a$
$=7a^2-8a$

2 解答 (1) $10ab-13a$ (2) $3y+3$ (3) $-x^2+9x-3$ (4) $-4a^2-4a-2$

(1) $8ab-6a-7a+2ab=8ab+2ab-6a-7a$
$=(8+2)ab+(-6-7)a$
$=10ab-13a$

(2) $5x-4y+3-5x+7y=5x-5x-4y+7y+3$
$=(5-5)x+(-4+7)y+3$
$=3y+3$

(3) $4x^2+3x-1-5x^2+6x-2=4x^2-5x^2+3x+6x-1-2$
$=(4-5)x^2+(3+6)x+(-1-2)$
$=-x^2+9x-3$

(4) $2a^2-9-8a+7+4a-6a^2=2a^2-6a^2-8a+4a-9+7$
$=(2-6)a^2+(-8+4)a+(-9+7)$
$=-4a^2-4a-2$

3 解答 (1) $11x$ (2) $-3x-7y$ (3) x^2-5x

(1) $8x+3x=(8+3)x$
$=11x$

(2) $3x-2y-6x-5y=(3-6)x+(-2-5)y$
$=-3x-7y$

(3) $2x^2+4x-x^2-9x=(2-1)x^2+(4-9)x$
$=x^2-5x$

4 解答 (1) x^2+3x-4 (2) $-x^3-x^2-x+3$ (3) $5a^2+5ab-3b^2$
(4) $6x^2-2y^2$ (5) $-ab-10bc-5ca$ (6) $3x^2-xy+y^2+3x$

(1) $7x^2-3x-2-6x^2+6x-2=7x^2-6x^2-3x+6x-2-2$
$=x^2+3x-4$

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

(3) $a^2+2ab-2b^2+3ab+4a^2-b^2=a^2+4a^2+2ab+3ab-2b^2-b^2$
$=5a^2+5ab-3b^2$

(4) $-3xy+x^2+2y^2-4y^2+5x^2+3xy=-3xy+3xy+x^2+5x^2+2y^2-4y^2$
$=6x^2-2y^2$

(5) $5ab-3bc-6ab+2ca-7bc-7ca=5ab-6ab-3bc-7bc+2ca-7ca$
$=-ab-10bc-5ca$

(6) $4x^2-5xy-y^2+3x+4xy+2y^2-x^2=4x^2-x^2-5xy+4xy-y^2+2y^2+3x$
$=3x^2-xy+y^2+3x$

5 解答 (1) $4a$ (2) $-3x$ (3) $-3mn$ (4) $-4pq$ (5) $-8x+4y$
(6) $6a-3b$ (7) $11s+2t$ (8) $7p-9q$ (9) $-5x+4y$
(10) $-x+6y-2$ (11) $4a+3b+9$ (12) $5s-15t-2$
(13) $3x-30y-22$ (14) $-41p-2q+51$

(1) $6a-2a=(6-2)a$
$=4a$

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

(3) $4mn-7mn=(4-7)mn$
$=-3mn$

(4) $-3pq-pq=(-3-1)pq$
$=-4pq$

(5) $x-3y-9x+7y=x-9x-3y+7y$
$=(1-9)x+(-3+7)y$
$=-8x+4y$

(6) $-a+2b+7a-5b=-a+7a+2b-5b$
$=(-1+7)a+(2-5)b$
$=6a-3b$

(7) $2s-4t+9s+6t=2s+9s-4t+6t$
$=(2+9)s+(-4+6)t$
$=11s+2t$

(8) $5p-8q+2p-q=5p+2p-8q-q$
$=(5+2)p+(-8-1)q$
$=7p-9q$

(9) $-8x+6y-2y+3x=-8x+3x+6y-2y$
$=(-8+3)x+(6-2)y$
$=-5x+4y$

(10) $3x-y+3+7y-4x-5=3x-4x-y+7y+3-5$
$=(3-4)x+(-1+7)y+(3-5)$
$=-x+6y-2$

(11) $5a+6b+8-a-3b+1=5a-a+6b-3b+8+1$
$=(5-1)a+(6-3)b+(8+1)$
$=4a+3b+9$

(12) $-s-8t+2+6s-7t-4=-s+6s-8t-7t+2-4$
$=(-1+6)s+(-8-7)t+(2-4)$
$=5s-15t-2$

(13) $26x-17y+12-23x-13y-34=26x-23x-17y-13y+12-34$
$=(26-23)x+(-17-13)y+(12-34)$
$=3x-30y-22$

(14) $-16p+29q+37-31q-25p+14=-16p-25p+29q-31q+37+14$
$=(-16-25)p+(29-31)q+(37+14)$
$=-41p-2q+51$

6 解答 (1) $5a-b$ (2) $-4x-4y$ (3) $-3x^2+2x$ (4) $-11ab$
(5) $\frac{1}{5}x^2+\frac{5}{2}x+\frac{3}{2}$

(1) $-3a+6b+8a-7b=(-3+8)a+(6-7)b$
$=5a-b$

(2) $2x-7y-6x+3y=(2-6)x+(-7+3)y$
$=-4x-4y$

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

(4) $3a^2-9ab-2ab-3a^2=(3-3)a^2+(-9-2)ab$
$=-11ab$

(5) $\frac{3}{5}x^2+\frac{7}{2}x+2-\frac{2}{5}x^2-x-\frac{1}{2}=\left(\frac{3}{5}-\frac{2}{5}\right)x^2+\left(\frac{7}{2}-1\right)x+\left(2-\frac{1}{2}\right)$
$=\frac{1}{5}x^2+\frac{5}{2}x+\frac{3}{2}$