1 解答 (1) $3x-2y$ (2) $7a-6b$

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

(2) $(5a-2b)+(2a-4b)=5a-2b+2a-4b$
$=5a+2a-2b-4b$
$=7a-6b$

2 解答 (1) $10x+7y$ (2) $-x+y$ (3) $7a-7b$ (4) $4a+2b$
(5) $5x^2-xy$ (6) $ab+3bc+ca$

(1) $(3x+y)+(7x+6y)=3x+y+7x+6y$
$=3x+7x+y+6y$
$=10x+7y$

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

(3) $(3a-2b)+(4a-5b)=3a-2b+4a-5b$
$=3a+4a-2b-5b$
$=7a-7b$

(4) $8a+(-4a+2b)=8a-4a+2b$
$=4a+2b$

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

(6) $(-2ab+4bc-ca)+(3ab-bc+2ca)=-2ab+4bc-ca+3ab-bc+2ca$
$=-2ab+3ab+4bc-bc-ca+2ca$
$=ab+3bc+ca$

3 解答 (1) $-2x+y$ (2) $2a+3b$

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

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

4 解答 (1) $3x+3y$ (2) $3a-3b$ (3) $2x+11y$ (4) $-a-6b$
(5) $x^2-4xy-3y^2$ (6) $-2ab+bc$

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

(2) $(4a-7b)-(a-4b)=4a-7b-a+4b$
$=4a-a-7b+4b$
$=3a-3b$

(3) $(5x+4y)-(3x-7y)=5x+4y-3x+7y$
$=5x-3x+4y+7y$
$=2x+11y$

(4) $(-4a-7b)-(-b-3a)=-4a-7b+b+3a$
$=-4a+3a-7b+b$
$=-a-6b$

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

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

5 解答 (1) $6x-2y$ (2) $-5a-10b$ (3) $6x-3y+15$

(1) $2(3x-y)=2\times3x+2\times(-y)$
$=6x-2y$

(2) $-5(a+2b)=(-5)\times a+(-5)\times2b$
$=-5a-10b$

(3) $3(2x-y+5)=3\times2x+3\times(-y)+3\times5$
$=6x-3y+15$

6 解答 (1) $14x-35y$ (2) $-24x+3y$ (3) $10a-5b+5$ (4) $2x-y$
(5) $-2x^2+x-5$

(1) $7(2x-5y)=7\times 2x+7\times(-5y)$
$=14x-35y$

(2) $(8x-y)\times(-3)=8x\times(-3)+(-y)\times(-3)$
$=-24x+3y$

(3) $5(2a-b+1)=5\times 2a+5\times(-b)+5\times 1$
$=10a-5b+5$

(4) $\frac{1}{3}(6x-3y)=\frac{1}{3}\times 6x+\frac{1}{3}\times(-3y)$
$=2x-y$

(5) $(4x^2-2x+10)\times\left(-\frac{1}{2}\right)=4x^2\times\left(-\frac{1}{2}\right)+(-2x)\times\left(-\frac{1}{2}\right)+10\times\left(-\frac{1}{2}\right)$
$=-2x^2+x-5$

7 解答 (1) $2x+3y$ (2) $-3a+2b-1$

(1) $(4x+6y)\div 2=(4x+6y)\times\frac{1}{2}$
$=4x\times\frac{1}{2}+6y\times\frac{1}{2}$
$=2x+3y$

(2) $(15a-10b+5)\div(-5)=(15a-10b+5)\times\left(-\frac{1}{5}\right)$
$=15a\times\left(-\frac{1}{5}\right)-10b\times\left(-\frac{1}{5}\right)+5\times\left(-\frac{1}{5}\right)$
$=-3a+2b-1$

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

(1) $(12x-4y)\div 4=(12x-4y)\times\frac{1}{4}=3x-y$

(2) $(9a-15b)\div(-3)=(9a-15b)\times\left(-\frac{1}{3}\right)=-3a+5b$

(3) $(2x+6y-8)\div 2=(2x+6y-8)\times\frac{1}{2}=x+3y-4$

(4) $(10x^2-5x-20)\div(-5)=(10x^2-5x-20)\times\left(-\frac{1}{5}\right)=-2x^2+x+4$

(5) $\left(\frac{6}{7}a-\frac{9}{14}b\right)\div\frac{3}{7}=\left(\frac{6}{7}a-\frac{9}{14}b\right)\times\frac{7}{3}=2a-\frac{3}{2}b$

9 解答 (1) $3a+b$ (2) $3p+5q$ (3) $2x-3y$ (4) $-3m+2n$
(5) $2a^2+3a$ (6) $2x^2+3y^2$ (7) $2a-5b+3$ (8) $-6x-9y+1$
(9) $8a^2-5a-11$

(1) $(12a+4b)\div 4=(12a+4b)\times\frac{1}{4}$
$=3a+b$

(2) $(6p+10q)\div 2=(6p+10q)\times\frac{1}{2}$
$=3p+5q$

(3) $(12x-18y)\div 6=(12x-18y)\times\frac{1}{6}$
$=2x-3y$

(4) $(21m-14n)\div(-7)=(21m-14n)\times\left(-\frac{1}{7}\right)$
$=-3m+2n$

(5) $(-18a^2-27a)\div(-9)=(-18a^2-27a)\times\left(-\frac{1}{9}\right)$
$=2a^2+3a$

(6) $(32x^2+48y^2)\div 16=(32x^2+48y^2)\times\frac{1}{16}$
$=2x^2+3y^2$

(7) $(6a-15b+9)\div 3=(6a-15b+9)\times\frac{1}{3}$
$=2a-5b+3$

(8) $(42x+63y-7)\div(-7)=(42x+63y-7)\times\left(-\frac{1}{7}\right)$
$=-6x-9y+1$

(9) $(64a^2-40a-88)\div 8=(64a^2-40a-88)\times\frac{1}{8}$
$=8a^2-5a-11$

10 解答 (1) $-5x+3y$ (2) $10a^2+6a-2$ (3) $6m-9n+3$ (4) $6x^2+x-3$
(5) $2a^2+7a-8$ (6) $-m-2n+9$ (7) $9x^2-x-6$

(1) $(20x-12y)\times\left(-\frac{1}{4}\right)=20x\times\left(-\frac{1}{4}\right)-12y\times\left(-\frac{1}{4}\right)$
$=-5x+3y$

(2) $2(5a^2+3a-1)=2\times5a^2+2\times3a+2\times(-1)$
$=10a^2+6a-2$

(3) $(4m-6n+2)\div\frac{2}{3}=(4m-6n+2)\times\frac{3}{2}$
$=4m\times\frac{3}{2}-6n\times\frac{3}{2}+2\times\frac{3}{2}$
$=6m-9n+3$

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

(5) $(3a^2+7a-9)-(a^2-1)=3a^2+7a-9-a^2+1$
$=3a^2-a^2+7a-9+1$
$=2a^2+7a-8$

(6) $(2m+6n+4)-(3m+8n-5)=2m+6n+4-3m-8n+5$
$=2m-3m+6n-8n+4+5$
$=-m-2n+9$

(7) $(6x^2-2x-5)+(3x^2+x-1)=6x^2-2x-5+3x^2+x-1$
$=6x^2+3x^2-2x+x-5-1$
$=9x^2-x-6$

11 解答 (1) $6x-5y$ (2) $8a-2b$ (3) $-a+b$ (4) $-6x-3y$

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

(2) $4(a-2b)+2(2a+3b)=4a-8b+4a+6b$
$=4a+4a-8b+6b$
$=8a-2b$

(3) $4(2a+b)-3(3a+b)=8a+4b-9a-3b$
$=8a-9a+4b-3b$
$=-a+b$

(4) $6(x-2y)-3(4x-3y)=6x-12y-12x+9y$
$=6x-12x-12y+9y$
$=-6x-3y$

12 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) $4(2a^2+4a-2)-5(a^2+3a-2)=8a^2+16a-8-5a^2-15a+10$
$=8a^2-5a^2+16a-15a-8+10$
$=3a^2+a+2$

13 解答 (1) $\frac{3x+2y}{4}$ (2) $\frac{7}{6}b$ (3) $\frac{5x-5y}{6}$

(1) $\frac{x-4y}{4}+\frac{x+3y}{2}=\frac{x-4y}{4}+\frac{2(x+3y)}{4}$

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

$=\frac{x-4y+2x+6y}{4}$

$=\frac{3x+2y}{4}$

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

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

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

$=\frac{7}{6}b$

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

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

$=\frac{3x-9y+2x+4y}{6}$

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

14 解答 (1) $18x+15y$ (2) $a+4b$ (3) $13m+n$ (4) $14x-3y$
(5) $13a-30b$ (6) $-18x-2y$ (7) $8a$ (8) $9p+36q$
(9) $15x^2+11x-22$ (10) $34a^2+35ab-24b^2$

(1) $8x+5(2x+3y)=8x+10x+15y$

$=18x+15y$

(2) $-4(6a-b)+25a=-24a+4b+25a$

$=-24a+25a+4b$

$=a+4b$

(3) $2(9m-3n)+(-5m+7n)=18m-6n-5m+7n$

$=18m-5m-6n+7n$

$=13m+n$

(4) $3(2x+5y)+2(4x-9y)=6x+15y+8x-18y$

$=6x+8x+15y-18y$

$=14x-3y$

(5) $3(a-5b)+5(2a-3b)=3a-15b+10a-15b$

$=3a+10a-15b-15b$

$=13a-30b$

(6) $2(-5x+y)-4(2x+y)=-10x+2y-8x-4y$

$=-10x-8x+2y-4y$

$=-18x-2y$

(7) $5(3a-7b)-7(a-5b)=15a-35b-7a+35b$

$=15a-7a-35b+35b$

$=8a$

(8) $-3(p-2q)+6(2p+5q)=-3p+6q+12p+30q$

$=-3p+12p+6q+30q$

$=9p+36q$

(9) $3(x^2-7x+2)+4(3x^2+8x-7)=3x^2-21x+6+12x^2+32x-28$

$=3x^2+12x^2-21x+32x+6-28$

$=15x^2+11x-22$

(10) $7(4a^2+5ab-2b^2)-2(5b^2-3a^2)=28a^2+35ab-14b^2-10b^2+6a^2$

$=28a^2+6a^2+35ab-14b^2-10b^2$

$=34a^2+35ab-24b^2$

15 解答 (1) $\frac{8x+3y}{8}$ (2) $\frac{6a-11b}{12}$ (3) $\frac{-4x+8y}{3}$

(1) $\frac{3x+5y}{4}+\frac{2x-7y}{8}=\frac{2(3x+5y)}{8}+\frac{2x-7y}{8}$

$=\frac{2(3x+5y)+(2x-7y)}{8}$

$=\frac{6x+10y+2x-7y}{8}$

$=\frac{8x+3y}{8}$

(2) $\frac{3a-2b}{3}-\frac{2a+b}{4}=\frac{4(3a-2b)}{12}-\frac{3(2a+b)}{12}$

$=\frac{4(3a-2b)-3(2a+b)}{12}$

$=\frac{12a-8b-6a-3b}{12}$

$=\frac{6a-11b}{12}$

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

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

$=\frac{2x+5y-6x+3y}{3}$

$=\frac{-4x+8y}{3}$