1.)

a. $3a + (2b - c) - (2a + 3c - b) =$
b. $2x + 5y - (y - 3x + 2) + (x - 8) =$
c. $3a - 8b + (11a + 4) - (5b - a + 3) =$
d. $9 + 3e - 5f - (e + f - 1) + (7 - 4e) =$
e. $2a^2 + 3a - (a + 5) - (1 - 3a^2) =$
f. $y^3 - 6y + (2y^2 + 3y - 4) - (y^3 - 5) =$
g. $3x^2 + y^2 - (x^2 - xy - y^2) + (5y^2 - 5xy) =$
h. $3ab + 6 + (a^2 - 2ab - 5) - (4b^2 - a^2 + 1) =$

2.)

a. $2(2a + 3b) + 3(3a - 2b) =$
b. $6(a - 2b) - 2(a - 5b) =$
c. $5(3a + 2b - 2) + 3(10 - a) - 5(b - a) =$
d. $(-4)\cdot(2b - c + 3a) - 3(a + 3b - 2c) =$
e. $3a(a + 4b) + 2b(6b - 5a) =$
f. $4m(3n + 5) - 7n(m + 8) =$
g. $2e(e^2 - 2ef) + f^2(5e - 2) - 6f(-e^2 + 3ef) =$
h. $(-5u)(2u^2 - uv + 3v^2) + 4v(-u^2 + 3uv - 7v^2) =$
i. $x^2(x - 2) + x(2x + 1) =$
j. $2x^2(x^2 + 2x - 1) - 3x(x^2 - x + 2) =$
k. $4y(y^2 - 2) + 3y^2(2y + 1) - 5(3 - y^2) =$
l. $3(z^2 - 4 + 2z) + 5z(2z - 1) - z^2(7 - z) =$

3.)

a. $(3p + 6)(p - 2) =$
b. $(-3p + 1)(2 + 4p) =$
c. $(5a - 7b)(9a - 2b) =$
d. $(12a + 5b)(3b - 4a) =$
e. $(u^2 + v^2)(2u^2 - v^2) =$
f. $(3u^2 - 2v)(u - 4v^2) =$
g. $(g - 5h)(2g + 3h) =$
h. $(3a^2 - 5a + 10)(5a - 2) =$
i. $(2r^2 + rs - 8s^2)(4r - 7s) =$
j. $(3r^2 - rs + 2s^2)(-4rs + s^2) =$

4.)

a. $(2a - 3b)(-3a - b) + (4a - b)(2a + 5b) =$
b. $(2a + 3b)(-3a + b) - (4a - b)(2a + 5b) =$
c. $(10x + 3)(2x - 5) - (8 - 3x)(4x + 9) =$
d. $(10x - 3)(2x + 5) + (8 - 3x)(4x - 9) =$
e. $(3r^2 - s^2)(2r + 3s) - (2r + 5s)(4r^2 - 2s^2) =$
f. $(-3r^2 - s^2)(2r - 3s) + (-2r + 5s)(4r^2 - 2s^2) =$
g. $(3z^2 - 5z + 2)(1 - 7z) + (4z - 7)(6z^2 + z) =$
h. $(3z^2 + 5z - 2)(1 - 7z) - (4z - 7)(6z^2 - z) =$

5.

a) $(3p + 6)(p - 2) =$
b) $(-3p + 1)(2 + 4p) =$
c) $(5a - 7b)(9a - 2b) =$
d) $(12a + 5b)(3b - 4a) =$
e) $(u^2 + v^2)(2u^2 - v^2) =$
f) $(3u^2 - 2v)(u - 4v^2) =$
g) $(g - 5h)(2g + 3h) =$
h) $(3a^2 - 5a + 10)(5a - 2) =$
i) $(2r^2 + rs - 8s^2)(4r - 7s) =$
j) $(3r^2 - rs + 2s^2)(-4rs + s^2) =$
k) $(x^2 + 5x - 2)(2x^2 - 3) =$
l) $(3a + 2)(9a^2 - 6a + 4) =$

6.

a) $(2a - 3b)(-3a - b) + (4a - b)(2a + 5b) =$
b) $(10x + 3)(2x - 5) - (8 - 3x)(4x + 9) =$
c) $(4y + 3)(7y - 2) - (8 - y)(3y + 5) =$
d) $(3t + 11)(5u + 2) + (4u - 3)(4t - 13) =$
e) $(3r^2 - s^2)(2r + 3s) - (2r + 5s)(4r^2 - 2s^2) =$
f) $(3z^2 - 5z + 2)(1 - 7z) + (4z - 7)(6z^2 + z) =$
g) $(x^2 + 2x - 1)(3x + 5) - (2x^2 - 3)(x + 5) =$
h) $(a^2 + a + 4)(a^2 - a + 4) + (2a + 3)(2 - 3a) =$

7.)

a) $2(2a + 3b) + 3(3a - 2b) =$
b) $6(a - 2b) - 2(a - 5b) =$
c) $5(3a + 2b - 2) + 3(10 - a) - 5(b - a) =$
d) $(-4)\cdot(2b - c + 3a) - 3(a + 3b - 2c) =$
e) $3a(a + 4b) + 2b(6b - 5a) =$
f) $4m(3n + 5) - 7n(m + 8) =$
g) $2e(e^2 - 2ef) + f^2(5e - 2) - 6f(-e^2 + 3ef) =$
h) $(-5u)(2u^2 - uv + 3v^2) + 4v(-u^2 + 3uv - 7v^2) =$
i) $x^2(x - 2) + x(2x + 1) =$
j) $2x^2(x^2 + 2x - 1) - 3x(x^2 - x + 2) =$
k) $4y(y^2 - 2) + 3y^2(2y + 1) - 5(3 - y^2) =$
l) $3(z^2 - 4 + 2z) + 5z(2z - 1) - z^2(7 - z) =$