Exercise 2E

Question 28:

$(ax + by)^2 + (bx - ay)^2$

$= a^2x^2 + b^2y^2 + 2abxy + b^2x^2 + a^2y^2 - 2abxy$

$= a^2x^2 + b^2y^2 + b^2x^2 + a^2y^2$

$= a^2x^2 + b^2x^2 + b^2y^2 + a^2y^2$

$= x^2 (a^2 + b^2) + y^2(a^2 + b^2)$

$= (a^2 + b^2) (x^2 + y^2)$

Question 29:

$a (a + b - c) - bc$

$= a^2 + ab - ac - bc$

$= a(a + b) - c (a + b)$

$= (a - c) (a + b)$

Question 30:

$a(a - 2b - c) + 2bc$

$= a^2 - 2ab - ac + 2bc$

$= a (a - 2b) - c (a - 2b)$

$= (a - 2b) (a - c)$

Question 31:

$a^2x^2 + (ax^2 + 1)x + a$

$= a^2x^2 + ax^3 + x + a$

$= ax^2 (a + x) + 1 (x + a)$

$= (ax^2 + 1) (a + x)$

********** END **********