Exercise 2F

Question 21:

$4x^2 - 9y^2 - 2x - 3y$

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

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

[Since $a^2 - b^2 = (a+b)(a-b)$]

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

Question 22:

$x^4 - 1$

$= (x^2)^2 - 1^2$

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

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

[Since $a^2 - b^2 = (a+b)(a-b)$]

Question 23:

$a - b - a^2 + b^2$

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

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

[Since $a^2 - b^2 = (a+b)(a-b)$]

$= (a - b)(1 - a - b)$

Question 24:

$x^4 - 625$

$= (x^2)^2 - (25)^2$

$= (x^2 + 25)(x^2 - 25)$

[Since $a^2 - b^2 = (a+b)(a-b)$]

$= (x^2 + 25)(x^2 - 5^2)$

$= (x^2 + 25)(x + 5)(x - 5)$

[Since $a^2 - b^2 = (a+b)(a-b)$]

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