Exercise 2F

Question 16:

$a^2 + 2ab + b^2 - 9c^2$

$= (a + b)^2 - (3c)^2$

$= (a + b + 3c)(a + b - 3c)$

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

Question 17:

$9 - a^2 + 2ab - b^2$

$= 9 - (a^2 - 2ab + b^2)$

$= 3^2 - (a - b)^2$

$= (3 + a - b)(3 - a + b)$

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

Question 18:

$a^2 - 4ac + 4c^2 - b^2$

$= a^2 - 4ac + 4c^2 - b^2$

$= a^2 - 2\ a\ 2c + (2c)^2 - b^2$

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

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

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

Question 19:

$9a^2 + 3a - 8b - 64b^2$

$= 9a^2 - 64b^2 + 3a - 8b$

$= (3a)^2 - (8b)^2 + (3a - 8b)$

$= (3a + 8b)(3a - 8b) + (3a - 8b)$

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

$= (3a - 8b)(3a + 8b + 1)$

Question 20:

$x^2 - y^2 + 6y - 9$

$= x^2 - (y^2 - 6y + 9)$

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

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

$= [x + (y - 3)][x - (y - 3)]$

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

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

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