EXERCISE

Question 1
$15x + 5$
Solution:-
Simplifying we get $15x + 5 = 5(3x+1)$

Question 2
$a^3 - a^2 + a$
Solution:-
Simplifying we get $a^3 - a^2 + a = a(a^2 - a + 1)$

Question 3
$3x^2 + 6x^3$
Solution:
Simplifying we get $3x^2 + 6x^3 = 3x^2(1+2x)$

Question 4
$4a^2 - 8ab$
Solution
$4a^2 - 8ab = 4a(a-2b)$

Question 5
$2x^3b^2 - 4x^5b^4$
Solution:-
Simplifying we get $2x^3b^2 - 4x^5b^4 = 2x^3b^2(1-2x^2b^2)$

Question 6
$15x^4y^3 - 20x^3y$
Solution:-
$15x^4y^3 - 20x^3y = 5x^3y(3xy^2 - 4)$

Question 7.
$a^3b - a^2b^2 - b^3$
Solution:-
Simplifying we get $a^3b - a^2b^2 - b^3 = b(a^3 - a^2b - b^2)$

Question 8.
$6x^2y + 9xy^2 + 4y^3$
Solution:-
Simplifying we get $6x^2y + 9xy^2 + 4y^3 = y(6x^2 + 9xy + 4y^2)$

Question 9
$17a^6b^8 - 34a^4b^6 + 51a^2b^4$
Solution:-
$17a^6b^8 - 34a^4b^6 + 51a^2b^4$

Simplifying we get $17a^2b^4 (a^4b^4 - 2a^2b^2 + 3)$

Question 10
$3x^5y - 27x^4y^2 + 12x^3y^3$
Solution:-
Simplifying we get
$3x^5y - 27x^4y^2 + 12x^3y^3 = 3x^3y (x^2 - 9xy + 4y^2)$

Question 11.
$x^2(a - b) - y^2(a - b) + z^2(a-b)$
Solution:-
$x^2(a - b) -y^2(a - b) + z^2(a - b) = (a - b) (x^2 - y^2 + z^2)$

Question 12.
$(x + y) (a + b) + (x - y) (a + b)$
Solution:-
$(x + y) (a + b) + (x - y) (a+b) = (a + b) (2x)$
$= 2x(a+b)$

Question 13
$2b(2a + b) - 3c(2a + b)$
Solution:-
$2b(2a + b) - 3c(2a + b) = (2a + b) (2b - 3c)$

Question 14.
$12abc - 6a^2b^2c^2 + 3a^3b^3c^3$
Solution:-
$12abc - 6a^2b^2c^2 + 3a^3b^3c^3 = 3abc(4 - 2abc + a^2b^2c^2)$

Question 15.
$4x(3x - 2y) - 2y(3x - 2y)$
Solution:-
$4x(3x - 2y) - 2y(3x - 2y) = (3x - 2y) (4x - 2y)$
$=(3x - 2y) \times 2 (2x - y)$
$=2(3x - 2y) (2x - y)$