Exercise 2K

Question 18:
Given, x + y + 4 = 0
We have $(x^3 + y^3 - 12xy + 64)$
$= (x)^3 + (y)^3 + (4)^3 - 3 (x) (y) (4)$
= 0.
Since, we know a + b + c = 0 $\Rightarrow (a^3 + b^3 + c^3)$ = 3abc

Question 19:
Given x = 2y + 6
Or, x - 2y - 6 = 0
We have, $(x^3 - 8y^3 - 36xy - 216)$
$= (x^3 - 8y^3 - 216 - 36xy)$
$= (x)^3 + (-2y)^3 + (-6)^3 - 3 (x) (-2y) (-6)$
$= (x - 2y - 6) [(x)^2 + (-2y)^2 + (-6)^2 - (x) (-2y) - (-2y) (-6) - (-6) (x)]$
$= (x - 2y - 6) (x^2 + 4y^2 + 36 + 2xy - 12y + 6x)$
$= 0 (x^2 + 4y^2 + 36 + 2xy - 12y + 6x)$
= 0.

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