$= \int dx\ [e^{(x^2 + y^2 + x - y + C)}]$

$= e^{(x^2 + y^2 + x - y + C)} + g(y)$ (integrating with respect to x)

Here, g(y) represents a constant of integration that depends on y.

Now, we differentiate F(x, y) with respect to y and set it equal to the second equation:

$\partial F/\partial y = \partial/\partial y\ (e^{(x^2 + y^2 + x - y + C)} + g(y))$

$= (2y - x - 1)e^{(x^2 + y^2 + x - y + C)}$

Comparing the coefficients of $e^{(x^2 + y^2 + x - y + C)}$, we have:

$2y - x - 1 = 0$

Rearranging this equation gives:

$2y = x + 1$

$y = (1/2)x + 1/2$

Therefore, the solution to the differential equation $(2x - y + 1)dx + (2y - x - 1)dy = 0$ is $y = (1/2)x + 1/2$.

4. **A. By using truth tables, check whether the propositions $\sim(p\wedge q)$ and $(\sim p)\vee(\sim q)$ are logically equivalent or not?**

To check the logical equivalence of the propositions $\sim(p\wedge q)$ and $(\sim p)\vee(\sim q)$, we can create truth tables for both propositions and compare their outputs.

The truth values for p and q and for $\sim(p\wedge q)$ is :

p	**q**	**$p\wedge q$**	**$\sim(p\wedge q)$**
T	T	T	F
T	F	F	T
F	T	T	T
F	F	T	T