Worksheet A: Completing the square (squares/algebra)

Part 1:
1) Expand \((x + 3)^2\)

2) Expand \((x + 10)^2\)

3) Expand \((x + 8)^2\)

4) Expand \((x - 8)^2\)

Part 2:
1) Given
\[ x^2 + 10x + \quad = \]
What number must be hidden for the expression to be a perfect square? What are the dimensions of the square?

2) Given
\[ x^2 + 8x + \quad = \]
What number must be hidden for the expression to be a perfect square? What are the dimensions of the square?

3) Given
\[ x^2 - 8x + \quad = \]
What number must be hidden for the expression to be a perfect square? What are the dimensions of the square?

Part 3:
1) Find the values of \(A\) and \(B\) for which \(x^2 - 12x + 5 \equiv (x + A)^2 + B\)

2) Find the values of \(A\), \(B\) and \(C\) for which \(5 + 12x - x^2 \equiv A(x + B)^2 + C\)

3) Find the values of \(A\), \(B\) and \(C\) for which \(2x^2 - 12x + 5 \equiv A(x + B)^2 + C\)

4) Find the values of \(A\), \(B\) and \(C\) for which \(4x^2 - 12x + 5 \equiv A(x + B)^2 + C\)