Name:
Group 1
Result:

1. Solve the following inequalities   *(4 points)*

$x^2 - 4x > 12$

$2x^2 + 1 < x$

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2. For what values of parameter m the inequality: *(2 points)*

$$2x^2 + 3x + m > 1$$

is true for all $x \in \mathbb{R}$?

3. The equation   *(4 points)*

$$2x^2 - x - 5 = 0$$

has two solutions: α and β.

Find quadratic equations with integer coefficients with solutions:

   a) $\alpha - 3$ and $\beta - 3$,

   b) α^2 and β^2.

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4. For what values of parameter m the equation: *(5 points)*

$$x^2 + mx + m + \frac{5}{4} = 0$$

has two real, **negative** solutions?