Name:
Group 2
Result:

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

$x^2 + 5x < 14$

$3x^2 + 1 > x$

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

$$3x^2 + 2x + m + 1 = 0$$

has two real solutions?

3. For what values of parameter k the inequality: *(3 points)*

$$kx^2 + (k+2)x + k < 0$$

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

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4. For what value of c is the line $y = 2x+c$ tangent to the parabola $y = x^2+2x+2$? *(3 points)*

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5. On the same set of axes sketch the graphs of $y = x + 5$ and $y = x^2 + 3x + 2$. Clearly indicate all axes intercepts, vertex and the points of intersections. *(4 points)*