

Name: _____

Show work needed to justify your answer.

Date: _____

HW: # 12b: Math IBSL - Standard 12 - Quadratic Formula and the Discriminant

5 points

1 Solve each inequality:

a $3x^2 + 5x - 2 \geq 0$

c $2x^2 + 6x - 6 < x^2 + 2x$

4 Find the value(s) of m such that the equation $x^2 + 6mx + m = 0$ has no real roots.

5 Find the value(s) of k for which the quadratic equation $kx^2 - 6kx + 2 + k = 0$ has two distinct real roots.

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- 6** The graph of $f(x) = 3x^2 + px + 4$ has no x -intercepts.
- a** Find an expression for the discriminant of $f(x) = 0$ in terms of p .
 - b** Find the possible values of p .
 - c** Let m be the largest possible integer value of p . Write down the value of m .
 - d** The function $h(x) = 3x^2 + mx + 4$ can be written in the form $h(x) = a(x - h)^2 + k$. Find the values of a , h and k .