

(Show your work. You may use your book or notes, but all work must be your own)

Problem 1: Give an equation of the line that is perpendicular to the line $y = 3x + 1$ AND goes through the point $(3, 1)$. At what point do these two lines intersect?

Problem 2: Solve for x (without using the quadratic formula).

$$3x^2 - 8x - 3 = 0$$

Problem 3:

Write $|x - 2| > 4$ as a union of two intervals. Express the interval $[3, 5]$ using an inequality and an absolute value sign.