Try these questions. Please use lots of space and as many pages as you want, so I can include corrections or comments.

Section 9.2 Completing the square

(1) Solve by completing the square: $x^2 + 6x = 1$

(Hint: complete the square on the left and add the same number to the right. Then write the left side as $(x + number)^2$ and finally use the square root property to get the two solutions.)

(2) Solve by completing the square (not by factoring): $x^2 - 12x = -11$

(3) Solve by completing the square: $x^2 + 4x + 5 = 0$

(Make sure any square roots are simplified and write with i if it's the square root of a negative.)

(4) Solve by completing the square: $3x^2 - 3 = 42x$

(Did you get $x = 7 \pm 5\sqrt{2}$?)

Section 9.3 The quadratic formula

(5) State the quadratic formula:

$$\text{If} \quad ax^2 + bx + c = 0 \quad \text{then} \quad x = \frac{??? \pm ???????}{?????}.$$

(6) Use the quadratic formula to show that the solutions to $19x^2 + 9x + 1 = 0$ are:

$$x = \frac{-9 + \sqrt{5}}{38} \quad \text{and} \quad x = \frac{-9 - \sqrt{5}}{38}$$

(7) Use the quadratic formula to solve: $5x^2 - 4x = -1$
(Move that -1 first!)

(8) Use the quadratic formula to solve: $3x^2 + 2x = 0$

(No points if you solve it by factoring, but you can check you get the same answer.)

(9) Solve using any method: $(x - 2)(x - 6) = 4$

If you get stuck on a question or aren't sure if you understand it:

- Go over the relevant class notes and section in the textbook.

- Check if you get the right answer for a similar odd-numbered question in the textbook (answers at the back of the book).

- Ask me about it after class.

- Come to my office hours: Mon 12:00 - 1:00, Wed 12:00 - 1:00 in CP 317.

- Go to the Math Tutorial Lab in-person in CP 303 or online.