Factor the Following:

1) \(22x^2 - 4x + 3\)

2) \(zy - 22 + 33y\)

3) \(x^2 - 8x + 17\)

4) \(y^2 - 8y + 22\)

Solve the following:

5) \(y^2 + 9x + 10 = 0\)

6) \(x^2 - x - 6 = 0\)

7) \(y^2 - 20x + 28 = 0\)

8) One leg of a right triangle is one meter longer than the other. If the hypotenuse is 11 meters, find the lengths of the other two legs.

9) A rectangular lake has a perimeter of 36 miles and a diagonal length of 21 miles. Find the dimensions of the lake.

10) The length of a rectangular garden is 3 meters greater than the width. The area of the garden is 300 square meters. Find the dimensions of the garden.

11) The cube of a number is 27 times the number. Find the number(s).

12) A rectangular lake is 320 square feet. Find the perimeter of the lake.

13) Write your name on the upper right hand corner of this sheet. Relax and enjoy.

14) The cube of a number is 27 times the number. Find the number(s).

Write your answers on the blank to the left. Show your work on a separate sheet.