162 Homework on Complex Numbers

1. For the complex number $2-3i$ the real part is _____, the imaginary part is _____ and the conjugate is _____
2. The conjugate of $\frac{1}{2}-\frac{\sqrt{3}}{2}i$ is _____, the conjugate of $2i$ is _____, and the conjugate of 4 is _____
3. If $2+3i$ is a solution of a quadratic equation with real coefficients, then so is _____.
4. If $x+1+(y-1)i = 3+4i$ then x=_____ and y=_____
5. Add: $(2+3i)+(1-2i)$
6. Subtract: $(2+3i)-(1-2i)$
7. Multiply: $(2+3i)(1-2i)$
8. Multiply: $(2+3i)(2-3i)$
9. Multiply: $(a+bi)(a-bi)$
10. Solve the quadratic equation $x^2-2x+5=0$ and write your answer in standard form.
11. Solve the quadratic equation $x^2-x+1=0$ and write your answer in standard form.
12. Find a quadratic equation with real coeffients and one solution of $2+3i$