Practice worksheet | Complex numbers

Conjugate roots of real quadratics

Name: _____ Date: _____

6 questions | 17 marks

1. A real quadratic has root $-3+5i$. State the other root. [2 marks]

2. Find the monic real quadratic with roots $1 \pm 4i$. [3 marks]

3. Find the monic real quadratic with roots $-2 \pm i$. [3 marks]

4. One root of $2z^2 + bz + c = 0$ is $3 + i$. Find real b, c. [3 marks]

5. A student claims a real quadratic has exactly the roots $2 + i$ and $3 - i$. Explain why this is impossible. [3 marks]

6. For $p(z) = z - (1 + i)$, test whether the conjugate of its root is also a root. Explain the result. [3 marks]