Practice worksheet | Complex numbers

Quadratic equations with non-real roots

Name: _____ Date: _____

6 questions | 16 marks

1. Solve $z^2 + 25 = 0$. [2 marks]

2. Solve $z^2 - 4z + 8 = 0$. [3 marks]

3. Solve $3z^2 + 12 = 0$. [2 marks]

4. Solve $z^2 + 6z + 11 = 0$ exactly. [3 marks]

5. Check directly that $1 + 3i$ solves $z^2 - 2z + 10 = 0$. [3 marks]

6. For real k, determine when $z^2 + 4z + k = 0$ has non-real roots. [3 marks]