Practice worksheet | Complex numbers

Why the imaginary unit is needed

Name: _____ Date: _____

6 questions | 13 marks

1. State why $x^2 = -5$ has no real solution. [2 marks]

2. Simplify the principal square root $\sqrt{-36}$. [2 marks]

3. Solve $z^2 + 81 = 0$. [2 marks]

4. Solve $4z^2 + 64 = 0$. [2 marks]

5. Evaluate $(3i)^2$ and explain why the answer is real. [2 marks]

6. Simplify $\sqrt{-20}$ exactly, then check its square. [3 marks]