

Unit 4: Complex Numbers and Rational Exponents

PRACTICE · SET 2

Name: _____ Date: _____

Solve each problem. Give your answer in simplest exact form (plain text: use $a+bi$ for complex numbers, fractions like $\frac{3}{4}$, and $\sqrt{}$ for radicals).

1. Evaluate: $27^{1/3}$

Answer: _____

3. Evaluate: $32^{2/5}$

Answer: _____

5. Simplify the powers of i : i^{26}

Answer: _____

7. Subtract: $(6 - 4i) - (2 + 3i)$

Answer: _____

9. Multiply: $(5 + 2i)(5 - 2i)$

Answer: _____

11. Solve for x : $\sqrt{x - 3} = 5$

Answer: _____

2. Evaluate: $16^{3/4}$

Answer: _____

4. Write $\sqrt{x^5}$ using a rational exponent (form $x^{a/b}$).

Answer: _____

6. Add: $(3 + 5i) + (7 - 2i)$

Answer: _____

8. Multiply: $(2 + 3i)(4 - i)$

Answer: _____

10. Simplify: $\sqrt{-49}$

Answer: _____

12. Solve for x : $(x + 1)^{1/3} = 2$ (equivalently $\sqrt[3]{x+1} = 2$)

Answer: _____