

Complex Number Practice WS
Advanced Algebra Trig

1. Write the sum or difference in standard form $a + bi$.

a. $(2 - 3i) + (6 + 5i)$ b. $(7 - 2i) - (4 + 2i)$ c. $(6 + 4i) + (3 - 2i)$ d. $(1 + 5i) - (5 - 4i)$

2. Write the product in standard form $a + bi$.

a. $(2 + 3i)(2 - i)$ b. $(1 - 4i)(3 - 2i)$ c. $(7i - 3)(2 + 6i)$ d. $(5i - 3)(2i + 1)$

3. Write each expression in standard form $a + bi$.

a. $(3 + 2i)^2$ b. $(1 + 4i)^3$ c. $(4i - 3)(2i + 3)(5 - 8i)$

4. Find the product of the complex number and its conjugate.

a. $2 - 3i$ b. $5 - 6i$ c. $i - \sqrt{3}$

5. Write each expression in standard form $a + bi$.

a. $\frac{1}{2+i}$ b. $\frac{2+i}{2-i}$ c. $\frac{2+i}{3i}$ d. $\frac{4+3i}{2-5i}$

6. Expand each polynomial

a. $f(x) = (x+6)(x-6)(x+7)$ b. $f(x) = (x+3i)(x-3i)$

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