Complex Numbers: Rationalizing the Denominator Practice

**NOTE:** You cannot have an imaginary number as your denominator. To rationalize you must multiply by the conjugate (Use the Notes on the previous page, “Complex Operations”, for steps on how to rationalize the denominator.)

1) \( \frac{2}{8i} \cdot \frac{2i}{8i^2} = \frac{-i}{4} \)

2) \( \frac{3}{5i} \cdot \frac{3i}{5i^2} = \frac{3i}{5} \cdot \frac{3}{5(-1)} = \frac{-3i}{5} \)

3) \( \frac{-5}{-5i} \cdot \frac{-5i}{-5i^2} = \frac{-5i}{-5(-1)} = \frac{5i}{5} \)

4) \( \frac{-1}{-9i} \cdot \frac{-i}{-9i^2} = \frac{-i}{-9(-1)} = \frac{i}{9} \)

5) \( \frac{6}{-4i} \)

6) \( \frac{6 + 8i}{9i} = \frac{-6i + 8}{9} \)

7) \( \frac{-5 - 9i}{9 + 8i} = \frac{-117 - 41i}{145} \)

8) \( \frac{-4 + 10i}{3 + 4i} = \frac{28 + 44i}{25} \)

9) \( \frac{-5 - 3i}{7 - 10i} = \frac{-5 - 71i}{149} \)

10) \( \frac{-3 - 7i}{7 + 10i} = \frac{-91 - 19i}{149} \)