

Key

## 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.)

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

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

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

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

$$\frac{-i}{1}$$

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

$$\frac{3i}{2}$$

$$6) \frac{6+8i}{9i}$$

$$\frac{-6i+8}{9}$$

$$7) \frac{-5-9i}{9+8i}$$

$$\frac{-117-41i}{145}$$

$$8) \frac{-4+10i}{3+4i}$$

$$\frac{28+46i}{25}$$

$$9) \frac{-5-3i}{7-10i}$$

$$\frac{-5-71i}{149}$$

$$10) \frac{-3-7i}{7+10i}$$

$$\frac{-91-19i}{149}$$