

**Problem 1** Simplify the following complex expression into standard form.

$$\frac{4 - 5i}{-2 - 4i} = \boxed{\frac{3}{5}} + \boxed{\frac{13}{10}} \cdot i$$

**Feedback(attempt):** Remember to multiply the top and bottom of the fraction by the conjugate of the bottom; i.e.  $-2 + 4i$  and foil out. This should get you a real denominator.

Also notice that the “ $i$ ” is already provided, so you don’t need to type into your answer.

**Problem 2** Simplify the following complex expression into standard form.

$$\frac{4 + 3i}{-3 - 3i} = \boxed{-\frac{7}{6}} + \boxed{\frac{1}{6}} \cdot i$$

**Feedback(attempt):** Remember to multiply the top and bottom of the fraction by the conjugate of the bottom; i.e.  $-3 + 3i$  and foil out. This should get you a real denominator.

Also notice that the “ $i$ ” is already provided, so you don’t need to type into your answer.

**Problem 3** Simplify the following complex expression into standard form.

$$\frac{-5}{1 + 2i} = \boxed{-1} + \boxed{2} \cdot i$$

**Feedback(attempt):** Remember to multiply the top and bottom of the fraction by the conjugate of the bottom; i.e.  $1 - 2i$  and foil out. This should get you a real denominator.

Also notice that the “ $i$ ” is already provided, so you don’t need to type into your answer.

**Problem 4** Simplify the following complex expression into standard form.

$$\frac{-3 - i}{5 - 3i} = \boxed{-\frac{6}{17}} + \boxed{-\frac{7}{17}} \cdot i$$

### Factor Coefficients Method Practice 1

**Feedback(attempt):** Remember to multiply the top and bottom of the fraction by the conjugate of the bottom; i.e.  $5 + 3i$  and foil out. This should get you a real denominator.

Also notice that the “ $i$ ” is already provided, so you don’t need to type into your answer.

