

## Factoring Binomials with Complex Factors (ALG.CN.11)

Factor each expression completely.

- $x^2 + 16$       $(x + 4i)(x - 4i)$
- $m^2 - 36$       $(m - 6)(m + 6)$
- $4n^2 + 196$       $4(n + 7i)(n - 7i)$
- $5p^2 - 45$       $5(p - 3)(p + 3)$
- $32k^2 + 27$       $(4\sqrt{2}k + 3\sqrt{3}i)(4\sqrt{2}k - 3\sqrt{3}i)$
- $c^2 + 50$       $(c + 5\sqrt{2}i)(c - 5\sqrt{2}i)$
- $j^4 - 81$       $(j - 3)(j + 3)(j - 3i)(j + 3i)$
- $3y^5 - 48y$       $3y(y - 2)(y + 2)(y - 2i)(y + 2i)$

Use the sum/difference of squares formulas to find each product.

- $(2x - 7)(2x + 7)$       $4x^2 - 49$
- $(3n - 11i)(3n + 11i)$       $9n^2 + 121$
- $(2\sqrt{7}m + \sqrt{5}i)(2\sqrt{7}m - \sqrt{5}i)$       $28m^2 + 5$
- $-2(x - 5)(x + 5)(x - 5i)(x + 5i)$       $-2x^4 + 1250$