

FAT: Higher Degree Polynomials
HW #10

Name _____
Per _____

Simplify to ± 1 , or $\pm i$

1. i^5

2. i^{10}

3. i^{11}

4. i^{16}

Rewrite the given equation into factored form by using the Quadratic Formula to find the roots. Show all work.

5. $y = x^2 - 4x + 5$

6. $y = x^2 + 4x + 5$

Add or Subtract and put in simplest form.

7. $(1-4i) + (-3+3i)$

8. $(9+7i) - (-1-2i)$

9. $(2+3i) + (2-5i)$

10. $(-2+3i) - (3+2i)$

11. $(6-3i) - (7+3i)$

12. $4i + (6+3i)$

Multiply and put in Simplest form.

13. $(5-i)(3+5i)$

14. $6(-1+2i)$

15. $3i(2-5i)$

16. $(5-5i)(1-4i)$

17. $(3-4i)^2$

18. $(4-3i)(-4+3i)$

State the Conjugate of each complex number.

19. $(5-i)$

20. $(-1+2i)$

21. $(2+3i)$

22. $(2i)$

Divide (mult. Numerator + Denominator by the conjugate). Write your answer in simplest form.

23. $\frac{3-2i}{4+i}$

24. $\frac{5-3i}{2-i}$

25. $\frac{3-4i}{3+4i}$