**Algebra 2** Name _____
**Practice WS – Sections 5.6, 5.7, 6.1**

**1-6. Use exponent rules to simplify the following. Leave no negative exponents. (Section 6.1)**

1. $-3x^4y^5 \cdot 2x^2y^{-3}$

2. $(2x^{-2}y^3)^4$

3. $(3x^6)^{-2} \cdot (2x)^0$

4. $\frac{16x^3y^6}{4x^7y}$

5. $\frac{-3x^0y^{-7}}{9x^{-3}y^4}$

6. $\frac{(2x^2y^4)^3}{8x^5y^{14}}$

**7-16. Simplify the following radicals. Leave no radicals in the denominator. (Section 5.6)**

7. $\sqrt{48}$

8. $\sqrt{-18}$

9. $\sqrt{8} \cdot \sqrt{12}$

10. $\sqrt{\frac{25}{49}}$

11. $\sqrt{\frac{16}{5}}$

12. $\sqrt{75}$

13. $\sqrt{-98}$

14. $\sqrt{10} \cdot \sqrt{6}$

15. $\sqrt{\frac{36}{121}}$

16. $\sqrt{\frac{3}{8}}$

**17-25. Simplify the following using properties of complex numbers. Write your answer in standard form. (Section 5.7)**

17. $(5-3i)+(6+5i)$

18. $(-6+2i)+(6-8i)$

19. $(7+4i)-(8+9i)$

20. $(-2-5i)-(-3+i)$

21. $3(2-7i)$

22. $-2i(-5+3i)$

23. $(2+3i)(6+5i)$

24. $(-1-i)^2$

25. $(7+4i)(7-4i)$