Algebra 2 - Mr. C. Name_____

Practice for Quarter 2 Exam 1

Date_____ Period____

**Simplify. Your answer should contain only positive exponents.**

1) $(2ba^{-2})^{-4}$

2) $\dfrac{2xy}{x^{-4}}$

**Factor each polynomial completely.**

3) $9v^3 - 21v^2 - 24v + 56$

**Simplify. Use absolute value signs when necessary.**

4) $\sqrt{8b^2}$

5) $\sqrt{16xy}$

6) $\sqrt[5]{64xy^4}$

7) $\sqrt[4]{48x^2y^4}$

**Simplify.**

8) $2\sqrt{5} - 3\sqrt{18} - 2\sqrt{5}$

9) $-3\sqrt{3} + 2\sqrt{8} + 3\sqrt{2}$

10) $\sqrt{2} \cdot \sqrt{15}$

11) $\sqrt{20} \cdot \sqrt{10}$

12) $(4\sqrt{2} + 5)(-2\sqrt{2} - 3)$

13) $(-5 - 8i) - (-7 - 2i)$

14) $(3 + 7i) + (8 - 3i)$

15) $(4i)(-i)$

16) $(-i)(5i)$

17) $(-5 - 3i)(3 - 2i)$

18) $(1 - 8i)(8 + i)$

19) $5(6i)(-8 - 4i)$

20) $\dfrac{6i}{3 + 3i}$

21) $\dfrac{9i}{-6 - 5i}$

**Simplify. Answer will have only positive exponents with no fractional exponents in the denominator.**

22) $\dfrac{4v^{\frac{4}{3}}}{2v^{\frac{5}{3}}}$

23) $\left(\dfrac{x^{-1}x^{-\frac{2}{3}}}{x^{-1}}\right)^{\frac{3}{4}}$

**Solve each equation. Check your solutions.**

24) $1 = \sqrt{x}$

25) $7 = \sqrt{4 - 9v}$

26) $p = \sqrt{p}$

27) $v = \sqrt{-8 + 9v}$

**Solve each equation by factoring. Check your solutions.**

28) $-8n = -n^2 - 15$

29) $-4x = -x^2 - 3$

30) $2n^2 = 23n - 56$

31) $7a^2 = -6 - 13a$

32) $35k^2 - 10 = 11k$

33) $0 = -7 + 12p - 5p^2$

**Solve each equation by taking square roots. Check your solutions.**

34) $81x^2 = 16$

35) $a^2 + 7 = 0$