Name: _____ **Class:** _____ **Date:** _____ **ID: A**

Algebra Unit 9--Factoring and Solving Quadratics Study Guide

Solve the equation.

1. $q\left(q+4\right)=0$

2. $(12x-4)(3x+6)=0$

3. $12d^2=-27d$

4. $(r-3)(r+6)=0$

5. $(3n+6)(6n-3)=0$

6. $4k^2=5k$

7. $\left(7p+14\right)\left(8-2p\right)=0$

Solve the equation by using the Quadratic Formula. Round to the nearest tenth if necessary.

8. $h^2+14h-29=0$

9. $v(2v-18)=-3$

10. $h^2+8h-22=0$

Factor the polynomial.

11. $12j^2k-36j^6k^6+12j^2$

12. $10g+14h$

Solve the trinomial equation.

13. $k^2+2k=35$

14. $k^2+4k=96$

Find the GCF of the set of monomials.

15. $70s^4t^3,\ 98s^2t$

16. $75x^4y^2,\ 45xy^2,\ 99x^2y^2$

Factor the monomial completely.

17. $63a^3b^3$

18. $2xy-4x+3y-6$

19. $12v^2-6=-v$

Factor the trinomial.

20. $g^2-8g-48$

21. $g^2 - 9g - 22$

22. $x^2 + 14x + 24$

23. $x^2 + 15x + 14$

Simplify each expression.

24. $\sqrt{24} \cdot \sqrt{3}$

25. $2\sqrt{24} + \sqrt{54} + 3\sqrt{150}$

Solve each equation by using the Quadratic Formula. Round to the nearest tenth if necessary.

26. $15n^2 - 3 = 4n$

Factor each polynomial.

27. $3xy - 4x + 6y - 8$

Simplify each expression.

28. $\sqrt{\frac{x^2}{12}}$

a. $\frac{|x|}{\sqrt{12}}$

b. $\frac{|x|\sqrt{3}}{6}$

c. $\frac{x^2}{2\sqrt{3}}$

d. $\frac{x}{6}$

29. $\frac{5}{\sqrt{11} - \sqrt{5}}$

a. $\sqrt{11} + \sqrt{6}$

b. 1

c. $\frac{5\sqrt{11} + 5\sqrt{6}}{17}$

d. $\frac{5\sqrt{11} + 5\sqrt{5}}{6}$