MATH 830 **Name**
Quiz 6
SAMPLE

Use Algebraic Notation AND Show All of Your Work

Factor each polynomial using the greatest common factor. If there is no common factor other than 1 and the polynomial cannot be factored, so state.

[8 pts]

1. $14y^2 - 7y$

ANS:_____

[9 pts]

2. $39x^5 - 13x^3 + 26x^2$

ANS:_____

[8 pts]

3. $12x^2 - 25$

ANS:_____

[10 pts]

4. $18x^3y^2 - 12x^3y + 24x^2y^2$

ANS:_____

Factor by grouping.

[9 pts]

5. $5y(2y+1) + 2y + 1$

ANS:_____

[10 pts]

6. $x^3 + 6x^2 - 2x - 12$

ANS: _____

[11 pts]

7. $10x^2 - 12xy + 35xy - 42y^2$

ANS: _____

[11 pts]

8. $x^2 + ax + bx + ab$

ANS: _____

Factor each polynomial completely, or state that the polynomial is prime.

[10 pts]

9. $y^2 + 5y - 24$

ANS: _____

[10 pts]

10. $y^2 - 22y + 72$

ANS: _____

[12 pts]

11. $a^2 - 21ab + 80b^2$

ANS: _____

[13 pts]

12. $3r^3 - 9r^2 - 54r$

ANS: _____

[14 pts]

13. $-3w^4 - 54w^3 - 135w^2$

ANS: _____

[13 pts]

14. $3y^2 - 2y - 5$

ANS: _____

[14 pts]

15. $3x^2 + 22x - 16$

ANS: _____

[12 pts]

16. $3x^2 - 5x + 1$

ANS: _____

[13 pts]

17. $6x^2 - 7xy - 5y^2$

ANS: _____

[14 pts]

18. $12a^2 + 7ab - 12b^2$

ANS: _____

[14 pts]

19. $36y^2 + 6y - 12$

ANS: _____

[15 pts]

20. $6a^3b^2 - 2a^2b^3 - 60ab^4$

ANS: _____

[12 pts]

21. $36y^2 - 49$

*ANS:*_____

[15 pts]

22. $64x^{14} - y^4$

*ANS:*_____

[9 pts]

23. $x^2 + 4$

*ANS:*_____

[13 pts]

24. $12y^3 - 48y$

*ANS:*_____

[15 pts]

25. $81x^4 - 1$

*ANS:*_____

[13 pts]

26. $64y^2 - 16y + 1$

ANS: _____

[13 pts]

27. $9x^2 - 48xy + 64y^2$

ANS: _____

[14 pts]

28. $14b^3 + 7b^2 - 7b$

ANS: _____

[16 pts]

29. $48a^4 - 3a^2$

ANS: _____

[17 pts]

30. $4ay^3 - 12ay^2 + 9ay$

ANS: _____

Use factoring to solve each quadratic equation. State your result in a ***solution set****.*

[18 pts]

31. $x^2 + 3x = 0$

ANS:_____

[21 pts]

32. $3x^2 = 15 - 4x$

ANS:_____

[27 pts]

33. $y(y+9) = 4(2y+5)$

ANS:_____

[24 pts]

34. $x(3x-8)=-5$

*ANS:*_____

[30 pts]

35. The length of a rectangular garden is 5 feet greater than the width. The area of the rectangle is 300 square feet. Find the length and the width. *(Draw a picture, define a variable, create an equation, solve using algebra, and answer in a sentence.)*

*ANS:*_____

[30 pts]

36. A model rocket is launched from a height of 80 feet. The formula $h=-16t^2+64t+80$ describes the rocket's height, h, in feet, t seconds after it was launched. How long will it take the rocket to reach the ground? *(Create an equation, solve using algebra, and answer in a sentence.)*

*ANS:*_____