

2.1A Factoring Review and u-substitution problems – Pre-calculus

Name: _____

Period: _____

Factor out the greatest common factor. If the leading coefficient is negative, factor out a negative GCF.

1. $24x^2 - 8x$

2. $-16w^4 + 10$

Factor by grouping.

3. $28m^3 + 7m^2 - 16m - 4$

4. $2rt - 6r + 11t - 33$

Factor completely. If it is prime, say so.

5. $w^2 + 7w - 18$

6. $3x^2 + 15x + 24$

7. $m^2 - 10m + 25$

8. $5t^2 + 18t - 6$

9. $z^2 - 9$

10. $x^2 + 4$

11. $x^3 - 8$

12. $3q^2 - 16q + 21$

13. $4y^2 - 25$

14. $3x^2 - 75$

15. $27x^3 + 125$

16. $x^2 - 5xy - 50y^2$

Pre-calculus Homework 2.1A
Equations That Are Quadratic in Form

Find the real solutions of each equation.

1. $x^4 - 13x^2 + 36 = 0$

2. $x^6 + 7x^3 - 8 = 0$

3. $3(y+1)^2 + 2(y+1) = 8$

4. $w - 2\sqrt{w} = 15$

5. $x^{1/2} - 5x^{1/4} + 6 = 0$

6. $4n^{-2} - 16n^{-1} - 9 = 0$

7. $z^{2/3} - z^{1/3} = 12$

8. $\frac{1}{(x-3)^2} + \frac{9}{x-3} + 20 = 0$

9. $2(3x+5)^2 = 5(3x+5) + 12$

10. $(x^2 - 4)^2 + 3(x^2 - 4) - 40 = 0$

***Hint: Use the quadratic formula on problems 11 and 12.**

11. $(m+5)^2 + 4 = -8(m+5)$

12. $x - 2x^{1/2} - 4 = 0$