Algebra 2H HW #_____ Section 3-4X and Extra Fun* Problems

Copy problems onto your own paper and show work.

1. Is (x - 6) a factor of $p(x) = -2x^2 + 15x - 18$?

2. Is (x + 2) a factor of $p(x) = 2x^4 - 9x^3 + 8x^2 + 9x - 10$?

Factor p(x), given that p(a) = 0. 3. $p(x) = 2x^3 + 3x^2 - 39x - 20$; a = 4

4. $p(x) = 9x^3 + 10x^2 - 17x - 2$; a = -2

Find all real solutions. 5. $3x^3 + 7x^2 - 12x = 28$ 6. $8x^5 - 42x^3 + 40x = 0$

7. $8x^3 - 125 = 0$ 8. $3x^7 - 243x^3 = 0$

Factor completely. *9. $27x^{6n} - 343$ *10. $(x+1)^3 + 1$

11. $4x^8 + 44x^4y^3 + 121y^6$ 12. $12x^5 - 102x^3 - 54x$ *13. $(x-1)^4 - (x-1)^2$

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1. yes 2. no 3. (x – 4)(2x + 1)(x + 5) 4. (x + 2)(9x + 1)(x – 1) 5. ±2, -7/3 6. $0, \pm\frac{\sqrt{5}}{2}, \pm 2$

7. 5/2 8. 0, ±3 10. (x + 2)(x^2 + x + 1) 12. 6x(2x^2 + 1)(x + 3)(x – 3) 13. x(x – 1)^2(x – 2)

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