~ Semester in Review ☺

**#1 Exponential Growth and Decay**

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| The function y = 290,000 (0.92)x represents the value of an old home that has been abandoned by its owners x years ago. Find the decay rate of the old home. | The function *y* = 187900 (1.025)*x* represents the value of a home *x* years after purchase. How much is the home worth after 12 years? |

#2 Factor

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| --- | --- | --- |
| A.  | B.  | C.  |
| D.  | E.  | F.  |

#3 Solve each of the following quadratics factoring. Set factors = 0 and SOLVE!

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| A.  | B.  |

 Part 4….Miscellancous

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| 5. What is the slope and y intercept for $3x-2y=6$ | 6. Write an equation for direct variation that passes through (-4,12) |
| 7. Suppose you invest $4000 in an account with 4.5% interest compounded monthly. How much will you have in 7 years? | 8. Factor $2x^{2}+5x-3$ |
| 9. Simplify: $\left(3x-5\right)^{2}$ | 10. Simplify: $\left(x^{2}-7x\right)-(5x^{2}-3x)$ |
| 11. Factor: $2x^{2}+12x-14$ | 12. Find the solutions to $x^{2}+3x=28$ |
| 13. Write $\sqrt[5]{x^{3}}$ using rational exponents | 14. Simplify: $\left(-4x^{3}\right)^{2}$ |
| 15. Simplify: $(-3x^{4}y^{2})(2x^{5}y^{3})$ | 16. Solve: $4x-3=2x-11$ |
| 17. Evaluate: $pm^{2}+m when p=2 and m=-3$ | 18. Solve: 7-( x + 4) < 12 |
| 19. Solve: $9x^{2}-25=0$ | 20. Solve: $\left|x-3\right|-6>2$ |
| 21. Solve: $x^{2}-9x+20=0$ | 22. Solve: $\left|x-4\right|<8$ |
| 23. Solve for p: $px+y=c$ | 24. Factor: $x^{3}-4x$ |
| 25. Solve:$$3n^{2}-5n-2$$ | 26. Write the equation of a line that is parallel to y = 3x-6 and passes through (-4,7) |