**Algebra II .Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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| **Unit: 5** | **Homework**: 7 |
| **Standard**: **Build new functions from existing functions**  **MGSE9-12.F.BF.5 (+)** Understand the inverse relationship between exponents and logarithms and use this relationship to solve problems involving logarithms and exponents.  |
| **Essential Questions:** How do I graph a logarithmic function? |
| **Key Words**: logarithm, common logarithm, logarithmic function, vertical asymptote, domain, intercepts |
| State the domain, intercepts and vertical asymptote of each function. Then graph. |

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|  | Domain | Asymptote | x-intercept | y-intercept |
| *1. f*(*x*) = log2*x* |  |  |  |  |
| 2. *f*(*x*) = log2(*x* – 2) |  |  |  |  |
| 3. *f*(*x*) = log2*x* + 6 |  |  |  |  |
| 4. *f*(*x*) = log2(*x* + 1) |  |  |  |  |
| 5. *f*(*x*) = log2(*x* + 2) – 1 |  |  |  |  |
| 6. *f*(*x*) = log2(3*x*) |  |  |  |  |
| 7. *f*(*x*) = log2(2 – 2*x*) |  |  |  |  |
| 8. *f*(*x*) = log2*x* – 4 |  |  |  |  |
| 9. *f*(*x*) = log2(3*x* + 1) – 3 |  |  |  |  |
| 10. *f*(*x*) = log2(3*x* – 1) + 5 |  |  |  |  |