***CCGPS Advanced Algebra Unit 2: Polynomial Functions Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_***

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| ***Unit 2 HW 9 Review*** |
| *Decide whether each function below is a polynomial. If it is, write the function in standard form. If it is not, explain why.* |
| 1. *f(x) = 3√3 - 5x*
 | 1. *f(x) = (1/x2) + (1/x) + x2*
 |
| 1. *f(x) = 5x4 - 2x2 + 8 – 3x*
 | 1. *f(x) = ½x3 + 2x +3x² + 4*
 |
| *Polynomials can be classified by the number terms as well as by the degree of the polynomial. The degree of the polynomial is the same as the term with the highest degree. Complete the following chart.*  |
|

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| *Polynomial* | *Number of terms* | *Classification* | *Degree* | *classification* |
| *f(x) = x + 4* |  |  |  |  |
| *f(x) = 5x³ + x + 3* |  |  |  |  |
| *f(x) = 2x2 + 1* |  |  |  |  |

 |
| *Find the sum, difference or product of the following. Write the answer in standard form.* |
| 1. *(x2 + 2x + 7) + (3x2 + 4x)*
 | 1. *(2x4 + 3x3 + 6) – (x4 + 4x3 + 13x2 + 2)*
 |
| 1. *(x2 + 2)(x + 1)*
 | 1. *(-3x - 2)(3x2 – x + 1)*
 |
| 1. *(x – 25)2*
 | 1. *(x2 + 2x + 4)2*
 |
| *Find the inverse of the given function.* |
| 1. $f\left(x\right)=3x-4$
 | 1. $f\left(x\right)= \frac{1}{3}x+2$
 |
| *Use function composition to determine if the functions are inverses. SHOW YOUR WORK.* |
| 1. $f\left(x\right)=3x+2, g\left(x\right)=\frac{1}{3}x-\frac{2}{3}$
 | 1. $f\left(x\right)=0.5x+2, g\left(x\right)=2x-2$
 |
| *Find the coefficient of the given term in the specified row of Pascal’s Triangle.*  |
| 1. *row 7, term 3*
 | 1. *row 9, term 4*
 |
| *Expand each binomial using the Binomial Theorem or Pascal’s Triangle.* |
| 1. *(–6x + 2)3*
 | 1. *(3x + y)5*
 |
| *Find the given term in the expanded form of each binomial.* |
| 1. *(4x + 2)8, term 5*
 | 1. *(–2x – y)13, term 4*
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