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| **Functionality Tested** | **Inputs** | **Expected Output** | **Actual Output** |
| Adding a Polynomial to a Polynomial with 0 terms | 5x3 + 2x2 + x | 5x3 + 2x2 + x |  |
| Adding 2 Polynomials | 1) 8x4 + 9x3 + 6x  2) 5x5 + 6x3 + 2x2 | 5x5 + 8x4 + 15x3 + 2x2 + 6x |  |
| Adding a Polynomial to an integer, 5. | -6x8 + 4x5 -2x + 3 | -6x8 + 4x5 -2x + 8 |  |
| Setting 2 Polynomials equal to each other | 1) 9x7 + 8x4 + 2x3  + 4x2 + 6x + 2  2) 4x9 | 4x9 |  |
| Multiplying 2 Polynomials | 1) x3 – 3x4  2) x2 – 2x | – 3x6 + 7x5 – 2x4 |  |
| Multiplying a Polynomial by an integer, 4 | 7x3 – 2x2 + 8x + 5 | 28x3 – 8x2 + 32x + 20 |  |
| Overwriting an existing Polynomial by reading from a file | 3x4 + x2 3x9 + 4x3 + 1x2 + 2x | 3x9 + 4x3 + 1x2 + 2x |  |
| Display Polynomial in descending order | 3x2 + 5x7 + 9x3 + 10x  -8x8 + 20x4 – x5 | -8x8 + 5x7 –x5 + 20x4 + 9x3 + 3x2 + 10x |  |
| Evaluate a Polynomial for an integer, 3 | -8x8 + 5x7 –x5 + 20x4 + 9x3 + 3x2 + 10x | -8(3)8 + 5(3)7 –(3)5 + 20(3)4 + 9(3)3 + 3(3)2 + 10(3) = -39876 |  |
| Simplify and order a Polynomial with multiple terms of equal degree | 5x3 + 45x3 + 10x4 + 2x4 + x | 12x4 + 50x3 + x |  |
| Setting a Polynomial equal to an integer | 8x5 -2x3 12 | 12 |  |
| Adding 2 Float Polynomials | 1) 8.6x4 + 9.9x3  2) 7.1x3 – 2.3x2 + 8.4x | 8.6x4 + 17x3 -2.3x2 + 8.4x |  |
| Multiplying 2 Float Polynomials | 1) 5.5x3  2) 10.2x6 | 56.1x9 |  |
| Adding 2 Complex Polynomials | 1) (10+5i)x4 + (-3 + 2i)x  2) (5+1i)x5 + (-3 + 10i)x3 + (2 -2i)x2 | (10+5i)x4 + (5+1i)x5 + (-3 + 10i)x3 + (2 -2i)x2 + (-3 + 2i)x |  |
| Multiplying 2 Complex Polynomials | 1) (10+5i)x4 + (-3 + 2i)x  2) (1 + i)x2 | (5 + 15i)x6 + (-5 – i)x3 |  |
| Adding 2 Polynomials—one of length 10 | 1) x11 + x10 + x9 + x8 + x7 + x6 + x5 + x4 + x3 + x2  2) x | x11 + x10 + x9 + x8 + x7 + x6 + x5 + x4 + x3 + x2 |  |
| Multiplying 2 Polynomials—one of length 10 | 1) x11 + x10 + x9 + x8 + x7 + x6 + x5 + x4 + x3 + x2  2) x12 + x | X23 + x22 + x21 + x20 + x19 + x18 + x17 + x16 + x15 + x14 |  |