Homework 4 Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Due 10 September

Accepted late until 17 September

Turn in any scratch work!

1. Fill out this table

|  |  |  |
| --- | --- | --- |
| Monomial | Coefficient | Degree |
| $$3x^{5}$$ |  |  |
| $$-4x^{12}$$ |  |  |
| $$-\sqrt{2}x^{3}$$ |  |  |
| $$11$$ |  |  |

1. Fill out this table

|  |  |  |
| --- | --- | --- |
| Polynomial | Coefficients | Degree |
| $$x^{3}+2x+11$$ |  |  |
| $$4x^{2}+3x+1502$$ |  |  |
| $$13x^{4}+ 12$$ |  |  |
| $$11x^{2}+2x$$ |  |  |

1. Add these polynomials and combine like terms
	1. $\left(x^{2}+4x+5\right)+ (3x-3)$
	2. $\left(x^{2}- 3x+1\right)+ \left(3x^{2}+ x-4\right)$
2. Subtract these polynomials and combine like terms
	1. $\left(x^{3}- 2x^{2}+ 5x+10\right)- \left(2x^{2}- 4x+3\right)$
3. Multiply these polynomials and combine like terms
	1. $x(x^{2}+x-4)$
	2. $\left(2x-4\right)\left(3x+1\right)$
	3. $\left(2x+3\right)\left(x-2\right)$
4. Use the difference of squares formula to simplify the following.
	1. (x-10)(x+10) =
5. Use the squares of binomials formula to simplify the following.
	1. (x+100)^2 =