

Math099 Week 6 assignment

Fill and upload this assignment, or take a pic and upload. One file please. Show any work that you do not do in your head, that leads to your answers.

Simplify a to d by collecting like terms, or expanding to get rid of brackets:

a. $(14xy^2)^0$	b. $6m + 7n + 14m - 2n$
c. $(-6m^3n^2)(9mn)$	d. $2x^2(5x - 3y)$

e. Evaluate the expression $(2x - 3y)^2$ given $x = -4$ and $y = 3$	f. Find the degree of $(7x^2 + 3x - 5)^3$
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g. Given the polynomial  $7x + 5x^5 + 3x^2 - 6x^4 + 2$

Arrange the expression in descending order of degree.

Multiply / expand. Answer in simplified form.

h. $4x^2y(2x^2 + 6xy - y) =$	i. $(x - 6)(x + 6) =$
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j. $6x(4x - 5)(x + 1) =$	k. $(3x - 4y)(x + 5y) =$
l. $(3a - b)^2$	m. $(2y + 5)(7y - 4)$

n. Divide  $4x^3 + 7x^2 + 10x + 6$  by  $(4x - 1)$  using long division. Show all work.

Divisor: \_\_\_\_\_

Dividend: \_\_\_\_\_

Quotient: \_\_\_\_\_

Remainder: \_\_\_\_\_

Factor each of the following polynomials. \*\*SHOW solution steps where you don't do the factoring in your head.

1. $48m^2 + 24m$	2. $x^2 + 11x + 28$
3. $3x^2 + x + 2$	4. $x^2 - x - 30$
5. $4x - 12 + xy - 3y$	6. $36x^2y^2 - 18xy^2 + 54x^3y$
7. $3x^2 + 3x - 168$	8. $9x^2 + 12x + 4$
9. $3y^2 + 13y - 10$	10. $(x - 5)^2 - 9$
11. $9x^2 - 25$	12. $y(x - 7) + 3(x - 7)$

