

Math 05, Homework 7 on Sections 5.4 - 6.3
Hand in by Tue, Mar 22 at the start of class.

Write all your working out and answers on a separate sheet. It is very important that you show clearly any work you had to do to get the answer. These first ten questions are 2 points each and **the answers are on page 2.**

- (1) Graph the two lines $x + 2y = 4$ and $x - y = 1$ on the same axes and estimate the point where they meet.
- (2) Solve the system of equations:

$$2x + 3y = 11$$

$$x - y = 3$$

- (3) What is the value of the x -coordinate of the solution to the system:

$$3x - 2y = 10$$

$$-4x - 3y = -2$$

- (4) Find the degree and find the number of terms of the polynomial $w^5 + 10w^3 - 3w^2 + 99w$
- (5) Add the polynomials: $x^3 + 4x - 5$ and $2x^2 + 3x + 4$
- (6) Subtract $6y^2 - 4y$ from $-3y^4 - 9y^2 + 10y$.
- (7) Simplify completely: $(9x^2 - 17x + 8) - (-2x^2 - 3x + 4)$
- (8) Simplify: $(3x^4)(7x^5)(2x)$
- (9) Simplify: $\frac{24a^6b^7c^2}{3a^3bc^2}$
- (10) Simplify: $(-2x^2)^3(3x^2)^3$
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These next eight questions are 2 points each. Show clearly all your working out and reasoning.

- (11) Graph the two lines $-2x + y = 2$ and $-x + 2y = -2$ on the same axes and estimate the point where they meet.
- (12) Solve the system of equations:

$$5x + 2y = 20$$

$$5x - 3y = -5$$

(13) Find the degree and find the number of terms of the polynomial $5x^2 - \sqrt{7}x - \frac{1}{100}$

(14) Add the polynomials: $2x^2 - x - 5$ and $6x^2 + 8x - 1$

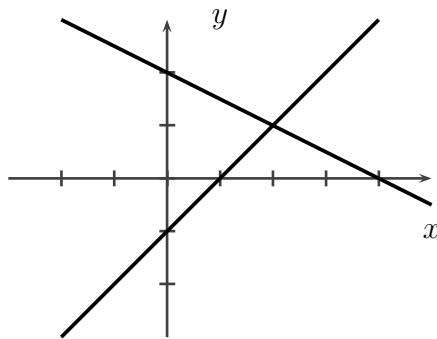
(15) Simplify completely: $(-4x^2 - 15x + 3) - (9x^2 - 6x + 5)$

(16) Simplify: $(y^3)(5y^5)(4y^2)$

(17) Simplify: $(-4x^3)^2(2x^4)^4$

(18) Simplify: $\frac{a^{-3} \cdot a^6}{a^9 \cdot a^{-7}}$

Answers to questions (1)-(10):



(1)

The lines meet at the point (2, 1).

(2) Solution is $(x, y) = (4, 1)$.

(3) The x -coordinate of the solution is 2.

(4) The degree of the polynomial is 5 and it has 4 terms.

(5) $x^3 + 2x^2 + 7x - 1$

(6) $-3y^4 - 15y^2 + 14y$

(7) $11x^2 - 14x + 4$

(8) $42x^{10}$

(9) $8a^3b^6$

(10) $-216x^{12}$