Chapter 4: How Do I Take and Use Notes?

Taking Notes in Class

Students often find it hard to take notes in class. What exactly should you write down? How much should you write down? What topics may be on the test? Hopefully after reading this chapter you will be able to better answer all of those questions and become a master note-taker.

Below are some tips that will make taking notes during a lecture easier. Please keep in mind that this section is separated into three different learning styles. Read through all of the following to decide which one will work best for you.

Before you get started, make sure you have a three ring binder with loose paper. This will make it easier for you to organize your notes and add handouts to your binder as you progress through the semester.

Visual Learner

Before Class:

- Read through your notes and homework from the previous class. In order to understand the lecture coming up, you have to understand and be familiar with the material previously taught.
- Ask the professor or another student to explain the material you did not understand

before the next class begins.

- Look over the section the professor is going to be teaching next. Be sure to familiarize yourself with the vocabulary for this section.
- Get to class early and give yourself time to get situated.

During Class:

- Take a seat in the front of the classroom. This will help eliminate any distractions later, during the lecture.
- Give your notes a heading. At the top of the page, list the date, chapter, and section.
- You will want to use a new page for each lecture and only use the front side of the page. This will allow you to compare the notes side-by-side when you go to review them.
- Write down the most important information given throughout the lecture. You cannot and should not try to write down everything a professor says, as you will miss other important information. So only write down what you feel are key words or phrases that will allow you to recall the information. Create your own symbols, abbreviations or shorthand to help save time. Below is a list of the most important points you should generally try to write down.

- Vocabulary- look for words where their use may be new to you or words that are critical to understand the course you are taking
- The professor is usually giving important information when they use repetition to deliver the material
- Any notes a professor writes on the board or displays on an overhead transparency
- All examples done during the lecture
- All examples done during group activities
- Steps used to solve or answer a particular example

Handouts

- Read through the entire handout before the professor goes over it in class. Highlight the vocabulary and any important procedures on the handout.
- As the professor is going over the handout in class, add any important information not on the handout in the left hand margin.
- Write all examples on a new sheet of paper in your notes. This will give you more room to answer the question and add any additional notes.

After Class:

- You want to review your notes the same day the lecture was given. This way the material is fresh in your mind. You are more likely to forget what your notes mean and how to do the problems if you wait until the next class to review them.
  - Highlight the examples and vocabulary given during the lecture.
  - Underline the examples you do not understand. Ask the professor, tutor, or another student to explain what you do not know ***before the next class meets.***
  - It is a good idea to share and compare your notes with other students in class. This will help you review the material and pick up any information you missed during the lecture.

Auditory Learner

Before Class:

- Read ***out loud*** your notes from the previous lecture. In order to understand the lecture coming up, you have to understand and be familiar with the material previously taught.
- Ask the professor or another student to explain the material you did not understand *before the next class begins.*

- Familiarize yourself with the vocabulary from the next section that is going to be taught in class.
- Get to class early and give yourself time to get situated.

During Class:

- Give your notes a heading. At the top of the page, list the date, chapter, and section. You will want to use a new page for each lecture and only use the front side of the page. This will allow you to compare the notes side-by-side when you go to review them.
- Use a tape recorder during the lecture. As an auditory learner, you learn more through listening to the lecture. You can use the tape recorder to review and take detailed notes after the class. **Ask your professor for permission before you bring in a tape recorder.**
- Make a note of the recorder time when you hear an important lecture point you would like to revisit.
- Write and do all examples given during the lecture.
- Write and do all examples given during group activities.
- List any steps used to solve or answer the example.
- Handouts
  - As the professor is going over the handout in class, add any important information not on the handout in the left hand margin.
  - Write all examples on a new sheet of paper in your notes. This will give you more room to answer the question and add any additional notes.

After Class:

- You want to listen to your lecture and review your examples the same day the lecture was given. This way the material is fresh in your mind. You are more likely to forget what your notes mean and how to do the problems if you wait until the next class to review them.
- Underline the examples you do not understand. Ask the professor, tutor, or another student to explain what you do not know ***before the next class.***
  - It is a good idea to ask questions and discuss the lecture with other students in class. This will help you review the material and pick up any information you missed during the lecture.

Tactile Learner

Before Class:

- Take time to rewrite your notes from the previous lecture. In order to understand the lecture coming up, you have to understand and be familiar with the material previously taught.
- Ask the professor or another student to explain the material you did not understand ***before the next class.***
- Look over the section the professor is going to be teaching next. Write down the new vocabulary terms and definitions for this section.
- Get to class early and give yourself time to get situated.

During Class:

- Take a seat in the front of the classroom. This will help eliminate any distractions later, during the lecture. Also, if you need to excuse yourself for a short break, you will not disturb anyone.
- Give your notes a heading. At the top of the page, list the date, chapter, and section. You will want to use a new page for each lecture and only use the front side of the page. This will allow you to compare the notes side-by-side when you go to review them.
- Write down the most important information given throughout the lecture. You cannot and should not try to write down everything a professor says, as you will miss other important information. So only write down what you feel are key words or phrases that will allow you to recall the information. Create your own symbols, abbreviations or shorthand to help save time. Below is a list of the most important points you should generally try to write down.
    - Vocabulary- look for words where their use may be new to you or words that are critical to understand the course you are taking
    - The professor is usually giving important information when they use repetition, or raise their voice to deliver the material
    - Any notes a professor writes on the board or displays on an overhead transparency
    - All examples done during the lecture
    - All examples done during group activities
    - Steps used to solve or answer a particular example
- Along with taking notes, research shows that a tactile learning may also want to record a lecture. This will enable you to listen to the entire lecture after class to see if there is anything you missed. **Ask your professor for permission before you bring in a tape recorder.**

- Handouts
    - Read through the entire handout before the professor goes over it in class. Highlight the vocabulary and any important procedures on the handout.
    - As the professor is going over the handout in class, add any important information not on the handout in the left hand margin.
    - Write all examples on a new sheet of paper in your notes. This will give you more room to answer the question and add any additional notes.

After Class:

- You want to rewrite and review your notes the same day the lecture was given. This way the material is fresh in your mind. You are more likely to forget what your notes mean and how to do the problems if you wait until the next class to review them.
    - As you are rewriting your notes, highlight the examples and vocabulary given during the lecture with bold colors.
    - Underline the examples you do not understand. Ask the professor, tutor, or another student to explain what you do not know ***before the next class.***
    - It is a good idea to talk about your notes with other students in class. This will help you review the material and pick up any information you missed during the lecture.

Note Taking Methods

There are five methods used to take notes; Outline, Mapping, Cornell, Charting, and Sentence. Below are examples of the Outline Method, most commonly used by visual learners, and the Mapping Method, most commonly used by tactile learners. The lecture used to write the examples is from Math 082, Multiplying Polynomial Expressions. To learn more about the other three methods go to http://sas.calpoly.edu/asc/ssl/notetaking.systems.html.

Outline Method: The main topics of the lecture will be listed on the left hand side of the paper. The specific facts that support the main topic will be indented to the right. You can use roman numerals, letters, or bullets. Highlight or underline the vocabulary, important information, and procedures.

Sample Outline Method

Multiplying Polynomial Expressions
Math 082

I. Classifying Polynomials

Definitions

Term: an expression that contains no addition or subtraction

Polynomial: an expression with at least one term and separated by plus or minus signs.

Monomial: polynomial that contains one term: $3x$; $-3x^2y$; 9

Binomial: a polynomial that contains two terms: $3xy+2$; $9x^2 – 4$; $5 - ab$

Trinomial: a polynomial that contains three terms

$2x^2 – 3x + 5$; $x^3 – 5x – 1$; $2x^3 – 5x^2 + 9x$

Polynomial: any polynomial that has more than three terms is just called a polynomial

II. Multiplying Polynomials

Multiplying a monomial with a polynomial

1. $(3X^2)(5X^3)=15\ x^5$

Multiply the coefficients (numbers multiply with numbers): (3) (5) = 15

Multiply the variable factors(same letter multiply with same letter):$(x^2)(x^3)= x^{2+3} = x^5$

2. $-5x(x – 2)= -5x^2 + 10x$

Distribute(Multiply) the -5x to everyone

$(-5x)(x) = -5x^2$

$(-5x)(-2)= 10x$

3. $3x^2y(x^2 + xy – y^2)= 3x^4y + 3x^3y^2 – 3x^2y^3$

Distribute the $3x^2y$ to everyone

$(3x^2y)\ (x^2)= 3x^4y$

$(3x^2y)\ (xy) =3x^3y^2$

$(3x^2y)\ (-y^2)= - 3x^2y^3$

Mapping Method: The mapping method is a graphic model used to illustrate the lecture. Main topics are used as the heading of each individual map. The specific facts are then drawn from the main topics using lines. Highlight, underline, or use boxes for important information.

Sample Mapping Method

Multiplying Polynomial Expressions
Math 082

Polynomial: an expression with at least one term
(term: an expression that contains no addition or subtraction)

Monomial: One term	**Binomial: Two terms**	**Trinomials: Three terms**
$3x$	$3xy+2$	$2x^2 - 3x + 5$
$-3x^2y$	$9x^2 - 4$	$x^3 - 5x - 1$
9	$5 - ab$	$2x^3 - 5x^2 + 9x$

Multiplying Polynomials

Monomial with a Polynomial

$(3X^2)(5X^3)=15\ x^5$

Multiply the coefficients (numbers multiply with numbers): (3) (5) = 15

Multiply the variable factors(same letter multiply with same letter):$(x^2)(x^3)= x^{2+3} = x^5$

Binomial with a Binomial

$(2x + 3)\ (x - 5)= 2x^2 -7x - 15$

FOIL

F(First)= $(2x)(x)= 2x^2$

O(Outer)= $(2x)(-5)=-10x$

I(Inner)=$(3)(x)= 3x$

L(Last)= $(3)(-5)=-15$

$2x^2$ $-10x + 3x$ – 15 (combine like terms)

$2x^2 -7x - 15$

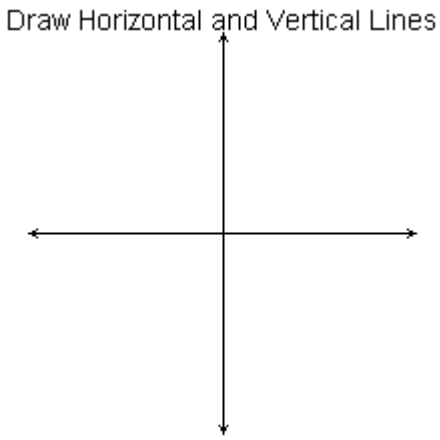
Binomial with a Trinomial

$(x-4)(x^2 + 2x - 1)=x^3- 2x^2 - 9x + 4$

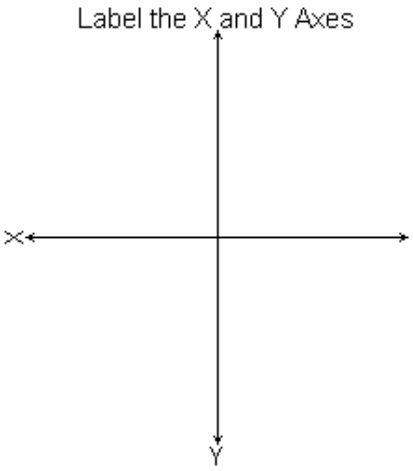
Multiply each term in the first parentheses, by each term in the second parentheses.

$(x)(x^2)=x^3$
$(x)(2x)=2x^2$
$(x)(-1)=-1x$
$(-4)(x^2)=-4x^2$
$(-4)(2x)=-8x$
$(-4)(-1)=1$
$x^3+2x^2-1x-4x^2-8x+1$(combine like terms)
$x^3- 2x^2 - 9x + 4$

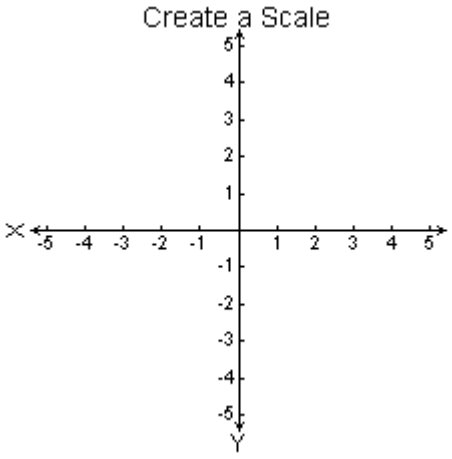
Graphing Points and Lines



Throughout the course of the semester, you will have to graph points and lines. You can use graph paper, which you can get free online, or regular notebook paper. You have to learn to draw a coordinate plane, x and y axes, properly. Draw a horizontal and vertical line. Make sure you have arrows on the ends of each line. The arrows represents that the lines goes on forever.



Label the X and Y Axes. The x-axis is the horizontal line. The y-axis is the vertical line.



Create a scale for your coordinate plane. You can count by ones, twos, fives, etc.

Now you are ready to graph your points and lines on the coordinate plane. If you use a straightedge to draw your x and y axes and to draw your tick marks, your graph will be more accurate.

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Taking Notes in Class

Review Questions

1. Before you get started taking notes, what must you have? Why?

2. Why should you ask your professor or another student to explain material you did not understand **before** the next class?

3. During class, you should only use the front side of the paper when taking notes, why?

4. List three types of things you should always write down during a lecture.

5. What can you gain by discussing your notes with other students in the class?

6. What are the five note taking methods? What note taking method will work best for you?