

# Learning From Lectures:

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*A Guide to University Learning*



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## STUDENT GUIDE:

Listening, sifting through information, and taking accurate, detailed lecture notes are some of the most important skills students need for learning at university. Your notes are the payoff for the time you invest in class and they provide a critical tool when preparing for exams. This section outlines tips and strategies for effective note taking in all subjects.

## University Lectures

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How are university lectures different from high school?

### 1. Course Structure

Courses are often divided into separate components:

- lecture: instructor conducts a lecture on a prepared topic
- seminar: smaller groups of students discuss course material with a TA
- lab: students gain hands-on experience related to the course content
- online: students access discussion boards and course content through Desire2Learn or another online system

### 2. Class Size

Class sizes are much larger in university than in secondary school:

- You may be one of more than 100+ students in some of your courses
- You may feel anonymous and find it difficult to communicate with the instructor
- When the instructor presents a great deal of information in each lecture, it can be difficult to know what or how much to write down
- You may find it intimidating to ask questions or comment on the material

### 3. Course Expectations

How you take notes – and what you take notes on – will depend on your professor's teaching style and course expectations:

- Are you expected to record information, participate in a discussion, ask questions, and/or observe how an expert (your professor) thinks, analyzes, and solves problems?
- Are you expected to have printed out and reviewed PowerPoint slides before the lecture?
- Are you expected to have completed the assigned textbook readings and/or problem sets before lecture?
- Do tests and exams focus on lectures, textbook material, or an equal combination of both?

## Preparing for Lectures

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### Can You Skip Class?

Even when professors post lecture notes online, you'll miss out if you're not in class. If you skip class:

- You will miss the instructor's explanatory comments and supporting examples.
- It will be difficult to determine the most important information for the exam since you don't know what the instructor emphasized in the lecture.
- You may end up relying on a classmate's notes, which could be incomplete or difficult for you to understand. Plus, many students don't like sharing their notes on a regular basis with students who don't attend lectures.
- You may find studying takes longer as going to class brings context to the material, deeper understanding and greater recall.

Even if you are tired or busy, find a way to make it to class!

### Read Before Class

Try to complete assigned readings before class so that you won't be struggling to take notes in the lecture on something that's already in your text. Reading ahead of time can help you to listen more actively in class, predict lecture topics, and identify questions that you should clarify in class. It will also allow you to note if diagrams or charts are in the textbook so that you do not have to struggle with duplicating a detailed visual during the lecture.

### Materials to Bring to Class

- Download and/or print any relevant notes, PowerPoint slides or handouts from Desire2Learn.
- Bring looseleaf paper so that you can integrate lecture notes, handouts, slides and textbook notes in one binder. Another alternative is to use spiral bound notebooks and then integrate these sheets later in you binder.
- If you don't bring a binder to class, bring a folder for each course. Store your lecture notes and any other papers in the folder until you can put them in binders at home.
- Bring a few writing utensils in case one stops working. Different colours allow you to format and highlight content. Pencils allow content to be easily erased and edited.
- Bring a laptop if you prefer to take notes on it and if the room is set up with ample power outlets and table space.
- Bring any lecture notes, handouts or readings from previous classes that you think may be useful or needed for a class.
- Bring a snack (nothing too smelly or crunchy!) if you are in a 3-hour lecture or if class meets over lunchtime.

## Laptop Pros & Cons

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### Laptop Pros

- You can easily connect to course materials found in online environments such as Desire2Learn and Blackboard.
- Printed notes are usually easier to read than handwritten notes.
- It is easier to integrate digitally-typed notes (i.e. from lecture and textbook) than to combine handwritten notes.
- Digital text is searchable on a computer.
- Digital notes can be easily sent by email.
- You have fewer pieces of paper to maintain and organize.
- Computer software provides a variety of tools for formatting text in lecture notes.
- Note taking software such as Microsoft OneNote (Windows) or Notebook Layout View in Microsoft Word (Mac) can help to record and organize your notes as well as manage multiple digital resources (e.g., PowerPoint slides, images, pdfs).

### Laptop Cons

- If you have problems concentrating in class, a laptop is a very tempting source of distractions.
- Laptops can be difficult to use in some classrooms, especially those with small flip-up desktops.
- In some problem-based courses, it may be easier to do problems and draw diagrams by hand than on a laptop.
- You have to remember to charge the battery if your classroom has no access to electrical outlets.
- If computer breaks down (and you have no backup or printouts), you may have lost notes.

## Active Listening

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### Hearing vs Active Listening

Many first year students fall into the trap of simply copying down everything the professor says. You may be 'hearing' a lecture but are you really actively thinking about what is said? Active listening means carrying on a dialogue with your instructor in your notes. This dialogue helps you to identify what is important and what should be included in your notes.

### Be an Active Participant

- Show up prepared to actively listen and learn. Doing your textbook readings is one helpful way to determine where the focus of the lecture will be.
- Do not passively record information from the board or what your professor says. Try to anticipate where your professor is going with a given topic.
- During the lecture, watch for verbal clues like "First... second..." which denote a series of important points, or more explicit clues like, "Note that . . ."
- Listen for the repetition of key phrases and terms.
- Non-verbal information, such as the instructor's facial expression or tone of voice, can indicate that a topic is important.
- The amount of time the instructor spends on a topic can also indicate importance.
- A general rule of thumb is that if the instructor takes the trouble to write something on the board, it is important.

### Try the Question-Evidence-Conclusion Structure

- Consider the Question - Evidence - Conclusion format for your notes. Most profs think in terms of questions. To find the big ideas, you must first find the questions and then find evidence to reach your conclusion. This is also how some profs lecture.
- All the information you write down in class should be associated with a question. Each question should be paired with a conclusion. Your notes should consist of 'question/conclusion' combinations - separated by points of evidence that support the conclusion. Try to fit all the facts/observations from class into this structure.
- There is no right or wrong way to break up a lecture into 'question/conclusion' combinations; just find a structure that works for you.
- Students often find the Question-Evidence-Conclusion format to be quite helpful for studying!

## Writing Lecture Notes

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When you have to write notes quickly and thoroughly, try some of these strategies to make your notes easier to record and to review later on.

- Mark the date at the top of each of each piece of paper used to record your lecture notes. Page numbering can also help keep your notes in the proper sequence.
- Emphasize key phrases, terms and titles by circling, highlighting, or using different colours of ink.
- Show the relationships between items by drawing arrows, creating concept maps, or organizing content into tables.
- Use numbered bullets to outline sequences or timelines to organize events.
- Use white space and headings to delineate topics.
- Write on only one side of the page or create a blank column on the page so that there is space available to edit notes or to record questions, study notes, summaries or messages to yourself.
- Make sure that you can read what you record. If your handwriting is difficult to read, you may want to print, or look into using a laptop computer.
- Sometimes you may have to forego neatness. Sketch diagrams/charts/visuals as quickly as you can to give yourself an overview. Find full versions in the textbook or online if required.
- To record information more quickly try using abbreviations, omitting common words or using IM style notehand (b4 = before)

## Course-Specific Note Taking

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### Science Courses

- Science courses rely on establishing a basic understanding of the material and then building on this as the semester progresses.
- Focus on understanding the core concepts of the lecture. This will make it less confusing on deciding what to write down.
- Trying to capture every word out of the professor's mouth is not good. You do not want to miss the point that the professor is trying to make.
- Focus on listening & understanding first, then make quick notes as you follow the lecture.
- Sometimes course notes are given in portable document format (.pdf), but you must elaborate on these notes.

### Arts & Social Sciences

- The content in Arts & Social Sciences lectures often follows a specific plan, which is usually laid out in the course outline.
- Many courses provide a list of readings that you should do before each class. Completing these readings will often improve your note taking ability.
- During the lecture, pay special attention to content that isn't covered in the readings, since your lecture notes will be the sole information source on these topics.

### Problem-Based Courses

- These courses (e.g., engineering, math, physics) rely heavily on a combination of written notes, mathematical problems, and diagrams.
- Record the problem statement, steps to solve the problem & the answer. Try to get every step down. If the prof goes too fast, at least try to write down the beginning & end of the problem.
- Question anything you don't understand at the moment it happens. Raise your hand and be confident to ask. Technical courses depend on comprehension of each step.
- Instructors may refer to notes from previous lectures (so bring notes from past classes).
- Make careful notes for all problems solved in class because these notes are essential to refer to when solving other problems on your own & they are excellent for studying.
- Leave plenty of space for each problem because your notes will include a lot of calculations, additional diagrams, and references to relevant theories.

### Commerce Courses

- The Bachelor of Commerce Program has many courses where you might experience case-based lectures. Cases are short "stories" that are read and then discussed in relation to theories and other course material.
- It is critical that you do the assigned questions before class so you can participate in discussions, ask questions & incorporate new ideas from the lecture into your answers.
- Since professors may not write notes on the board or provide them to you online, some students find that it is easier to add lecture notes to questions they've already answered than to write all of their lecture notes on a blank sheet of paper.



## Lecture Follow-Up

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Taking effective notes doesn't stop when the lecture ends. Take some time outside of class to edit, integrate or review your notes to help you prepare ahead of time for exams or projects.

- Try to review lecture material within 24 to 48 hours as recall will be very high. If you wait longer to review lecture material you may find that retention drops and you are relearning rather than reviewing.
- Set aside a few minutes each day to go over your notes, rewrite any messy parts, fill in gaps, and put your notes in a binder.
- If your instructor speaks very quickly, set aside time right after class to write down what you can from memory.
- In some cases, it may be helpful to compare your notes with a friend's. Your friend might be able to help fill in some gaps in your notes, and you may be able to help him/her.
- If you take notes from the textbook after lecture, use the back side of your lecture notes. You'll spend less time taking textbook notes on topics already covered in the lecture.
- If you had difficulty understanding the content of the lecture, you can:
  - See the prof during office hours. Take your notes with you to show where you are having difficulty.
  - Ask the prof if he or she gives the same lecture at another time. Hearing an explanation a second time can often lead to deeper understanding.
- At the end of each week, write a summary of the week's lectures and textbook notes or create a concept map. The summary or map can later be used when studying for exams.

## LECTURE TOP TEN TAKEAWAYS

1. Prepare for lectures by completing readings ahead of time and bringing print-outs of PowerPoint slides or lectures notes to class.
2. Be an active participant in lectures: ask questions in your head, watch for verbal cues, listen for key phrases and take note of what the instructor writes down.
3. Visually format your notes by skipping lines, indenting words, using bullets, drawing arrows, creating concept maps, sketching diagrams and leaving lots of space between topics.
4. Even if your professor posts lecture notes, don't miss class. Most professors give examples, details, and additional explanations in class to help you understand the material better.
5. In Arts & Social Science course lectures pay attention to content that isn't covered in the readings as this will be the only time you hear of it!
6. Problem-Based courses rely heavily on written notes, mathematical problems & diagrams. Ensure you jot down all the steps of the problem.
7. Commerce courses rely heavily on case studies. Do the assigned questions before class and participate in discussions.
8. Science courses rely on understanding the basics first and then building upon those basics. Don't try to record everything the prof says. Listen for and try to understand the basic concepts, then make notes.
9. A laptop can be a useful tool for taking notes. Try using OneNote (Win) or Notebook Layout in Word (Mac) to record, format & store your notes in a highly organized manner.
10. Don't forget to follow up the lecture by reviewing your notes, rewriting messy parts, filling in gaps, and discussing with friends. Reread your notes to help remember course material.

## PRACTICE ACTIVITY

The purpose of this activity is to practice your note taking skills while watching a lecture presentation.

### Instructions:

1. For each lecture section, start the video by pressing the play button located in the bottom left-hand corner of the video player. The video is found in either the **Flash** version or the **.html** version of the Guide to University Learning.
2. As you play the video determine the key pieces of information & record them in the manner you feel would be most helpful to you.
3. If you prefer (& many students do) you can take your notes by writing right on the lecture PowerPoint slides. As the course outline stated, the professor has provided the class notes for you for this purpose. The PowerPoint slides are found in **Appendix A**.
4. Try to simulate as best you can the environment in a lecture hall. That means you shouldn't rewind the lecture if you miss something or pause it to get something written down before continuing on.
5. When the video finishes, go to **Appendix B** where you can compare your notes with those from an experienced student.

## APPENDIX A – LECTURE POWERPOINT SLIDES

# PSYC\*1100 Sample Class

## The Normal Curve

# Summary of Last Class

# The Normal Curve

What is it?

# The Normal Curve

## Some Characteristics of the Normal Curve



## Practice Question

The scores on an exam were normally distributed. Sam's score of 74 was higher than 84% of the class. Tom's score of 60 was higher than 16% of the class. What was the mean?

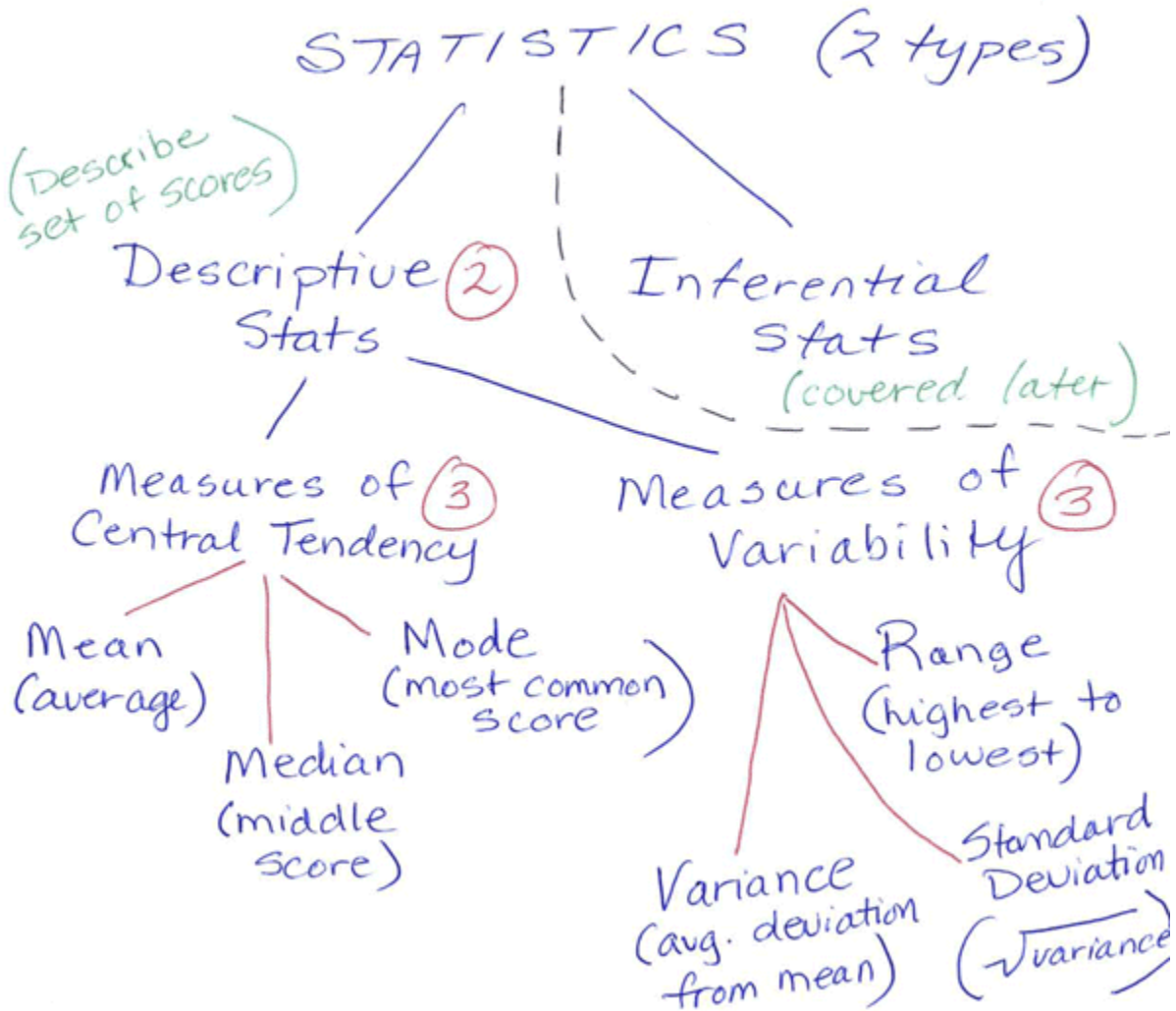
# Solution to Practice Question

## APPENDIX B – STUDENT LECTURE NOTES SAMPLE

# PSYC\*1100 Sample Class

## The Normal Curve

# Summary of Last Class



★ Important to know mean & standard deviation to interpret scores ★

## The Normal Curve

What is it?

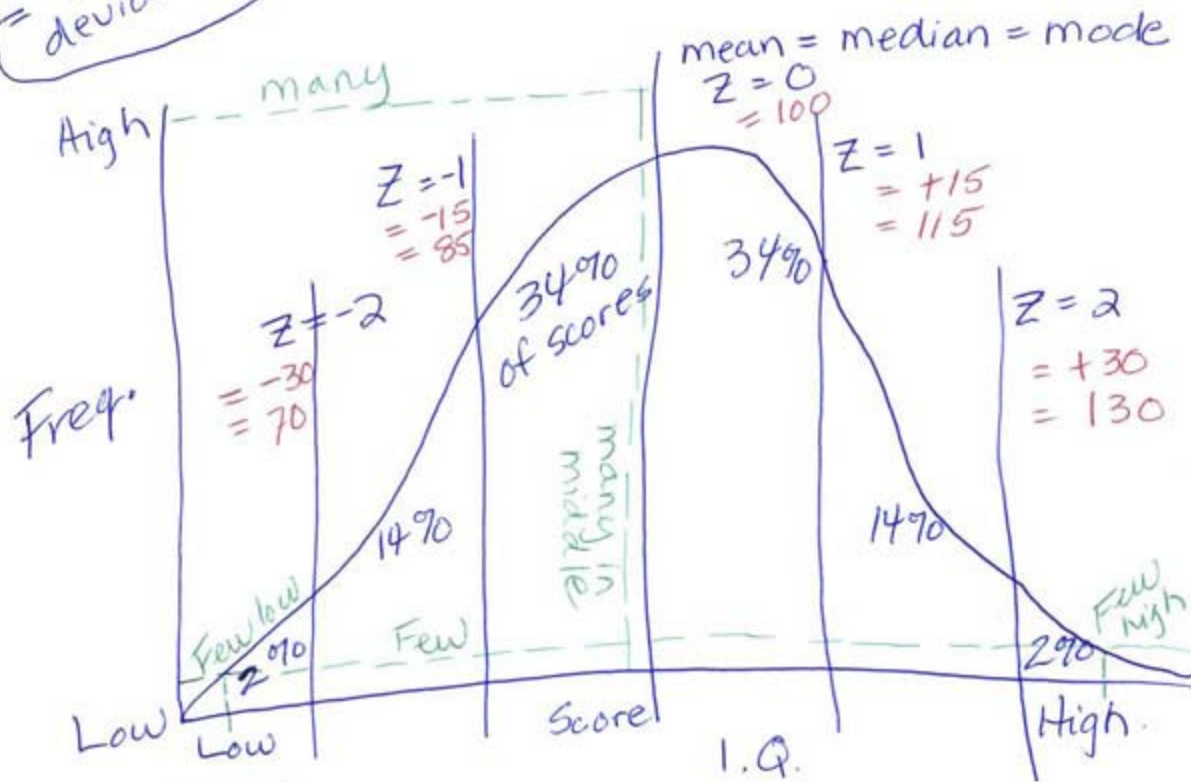
- theoretical frequency distribution shows freq. of different scores in distribution
- many variables in Psych. research have freq. dist. which approx. a normal curve
- e.g.'s - weight, height, IQ

Always do in same way

- axes
- $x = \text{scores} - \text{low} \rightarrow \text{high}$
- $y = \text{freq} - \text{low} \rightarrow \text{high}$
- bell shaped curve
- mean - line down middle
- $Z$  scores - 2 lines on either side of mean - equally spaced

Z scores = std. deviations

## The Normal Curve



E.G -  
 S.D = 15  
 Mean = 100

## Some Characteristics of the Normal Curve

- \* - bell shaped
    - mean always in middle (middle line)
  - \* - mean = median = mode
  - \* - Symmetrical about the mean - fold down the mean
    - %'s always the same - 2%, 14%, 34%, 34%, 14%, 2%
- Z scores -  $-2, -1, 0, 1, 2$
- Z scores = std. deviations
  - \* - proportion of scores under curve at certain points

## Practice Question

The scores on an exam were normally distributed.

Sam's score of 74 was higher than 84% of the class. Tom's score of 60 was higher than 16% of the class. What was the mean?



\* Normally distributed \*

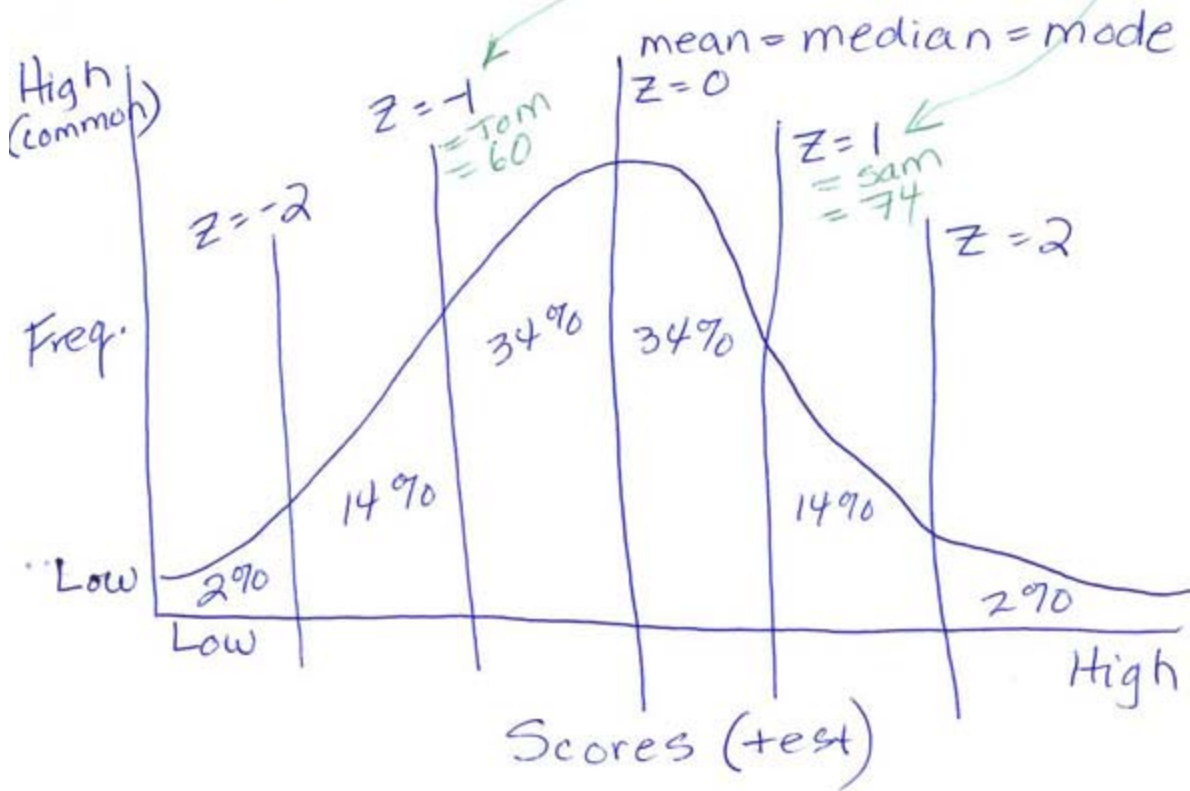
↳ so, we can use the normal curve

↳ put down all info, we know about normal curve.

Sam = 74, higher than 84% (2 + 14 + 34 + 34)  
Tom = 60, higher than 16% (2 + 14)

WHAT WAS MEAN?

## Solution to Practice Question



Sam = Z at 1 }  
Tom = Z at -1 } (2) Std deviations

$$\begin{array}{r} 74 \\ -60 \\ \hline 14 \end{array}$$

$14 \div 2 = 7$

mean =  $\begin{array}{r} 60 \\ + 7 \\ \hline 67 \end{array}$