# Tips for being a good mathematical audience member

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**Things you should think about during a presentation and questions you might ask:**

- Do I know what the premises of the proof are? (e.g. Are we working in $\mathbb{R}$ or $\mathbb{R}^n$?)

- Do I understand what reasoning the speaker used to go from one line to the next? (e.g. How do you get from line 3 to line 4?)

- Is there any ambiguity in the reasoning? (e.g. Do you mean vector addition or real number addition?)

- Do I understand the speaker's notation? (e.g. Does $fg$ mean function composition or function multiplication?)

- When a new variable is introduced, has it been defined? (e.g. Wait, what's $X$?)

- Is all pertinent information about a variable given? (e.g. Does $x$ denote a real number or an integer?)

- Is there any ambiguity in the citation? (e.g. Are you only using Part 3 of Theorem 8.2?)

**Things you should think about following a presentation and questions you might ask:**
(All of the above questions can also be asked after a presentation.)

- Would I have chosen the same proof technique? (e.g. How did you think of using Corollary 2.3 here?)

- Do I have a different approach? (e.g. Could also prove this using the Invertible Matrix Theorem?)

- Can I visualize what's happening? (e.g. Do you think you could draw a pictures?)

- Could the proof shortened if ... (e.g. Can you could go directly from line 7 to line 10 since ...?)

- Are there places where the proof could be clearer? (e.g. I got lost when in the calculation you did ..., do you think you could break it down into more steps?)