INTRODUCTION

Each year the Association of Mathematics Teachers of New Jersey (AMTNJ) presents the prestigious *Max Sobel Award* for outstanding service and leadership in Mathematics Education. In 1990, Dr Sobel was the first recipient of the AMTNJ award.

Professor Max A. Sobel, long-time teacher at Montclair State University, writer of numerous textbooks and presenter at many local, state, national and international conferences, passed away on Veterans Day, November 11, 2016. Max was an Army veteran who participated in the *Battle of the Bulge* during WWII and received a *Purple Heart*.

On December 8, 2016 at the AMTNJ Two-Day conference less than a month after his death, Dr Sobel was honored during the *Max Sobel Awards* dinner by four of his former students and friends, a long time colleague, Dr Evan Maletsky, and also his son, Elliot Sobel, remembering his many contributions to mathematics education along with personal stories.

A video created by Dr Kristie L. Prokop and aides recorded the presentations which may be viewed on a link upon request. The uncut video is one hour and 33 minutes in length so our archives committee had Deborah Fontana-Legora transcribe the video to a written format and then edited by Dr Janice-Lynn Shuhan and Dr J. Michael Nuspl.

The six presentations by Muriel Thatcher, Stephanie Cooperman, Dr Janice-Lynn Shuhan, Dr Evan Maletsky, Dr Kristie Prokop and Elliot Sobel are noted as Page C, Page D, Page E, Page F, Page G and Page H, respectively.

Muriel Thatcher

Stephanie Cooperman

Janice-Lynn Shuhan

Evan Maletsky

Kristie Prokop

Elliot Sobel

Six presenters shown above during the Max Sobel tribute on December 8, 2016

EDITED Sobel Tribute transcription-Muriel Thatcher

Well it is an honor and a pleasure and it is worth the trip from North Carolina but I am a New Jersey girl and as we all know and as Kristie just said the world lost an extremely talented, bright and wonderful man. I was fortunate to be in his second year there at Montclair and met my best friend that day too - the first day- but I hope this remembrance will speak for hundreds and ultimately thousands of teachers and students who either had the honor of knowing or being affected by Dr. Max Sobel sometimes as an author, sometimes in person or at conferences. He did have a big following as we know. His book, The Art of Teaching was highly tuned with enthusiasm, knowledge and a deep understanding of teaching and learning mathematics. He also had the incredible ability to quickly commit to memory each person's name, and some wonderful facts about them, their family, their jobs and hobbies and he remembered those and if you were fortunate enough to run into him even years later that was a talent.

So, he modeled my teaching career and molded me into what I became and I was very fortunate and very blessed to enjoy many, many years and I am still tutoring and teaching with that same enthusiasm. So he was, I think, a true "math-e-magician." Now I use that word because the second year, when we were in college "Donald Duck in Mathmagic Land" came out and to me that was a wonderful cartoon some people may be a little slanted about it but it captured the wonders, the history and the mysteries, the challenges, the structure of math and to me that is what Max did. He captured it for all ages and he made it fun for all. When we describe his successes, it was because he managed to weave the history, the mystery, the stories, the humor, the tricks into his mathematically solid math lessons and students entered and left his classes with smiles on their faces and that is a rare teaching quality. We don't see too much of that. Max showed interest in students as a person. He got to know them as an individual. He made everyone feel special and co-authoring with Evan Maletsky, I called them

“the dynamic duo.” They always reflected current changes in thinking and challenges for students. I did bring one of their books to circulate to some of the tables if you have not seen them. Not the textbooks, but this an individual book and with Max kids discovered and understood math and they realized success as they made connections. So often people don’t do that and teachers realize it is possible to teach effectively and to enjoy it and hopefully presumably all of you do enjoy what you are doing and have fun and hopefully your students have fun because that should be the trademark and is it evident in your class that I asked a couple of students I worked with about their math teachers and I was not happy because they said well they show one or two examples and they hand out two or three pages with 25 to 40 problems and they sit at their desk. Well, David Johnson’s book *Every Minutes Counts,* he indicates that no teacher should be sitting at their desk. They should be walking around, talking to the kids, looking at how they are doing, giving them encouragement and so forth. The teachers look bored or show no enthusiasm. Well you can’t expect the kids to if you don’t. They often don’t seem to care if the kids succeed or if they struggle and they kind of give little attention to some of the students as individuals, they are just a block of people. They may not give partial credit. One of the boys I tutor has cerebral palsy and he has great trouble just manipulating to write let alone to take notes or have it be very legiible. His track record with that teacher because he gives no partial credit doesn't bother to look at all the work that is correct. There may be a sign that’s wrong, or one number but the answer isn’t right so the kid is batting about 30 out of 100 percent and his teacher won’t consider doing anything different. It’s sad that we don’t consider kids the way Max would have. So, we never know the far reaching of fact that one comment can have whether it is praise or criticism. The praise is what we want and that is what keeps kids going. I’m sure you as I do have a whole slew of kids that you could mention. I had Patty from a Catholic School and she persevered her heart out. Everything was wrong until March and she came in one morning, every morning she was there at 7:30 and had me look at her work and I looked at the paper and I said “Patty, you did all these”. [She shook

her head] It was a difference of a perfect square and it was a difference in her life. I got up and danced around the room with her, every single one of them was right, the first time all year and I had been coached her along giving her like a C- and she would go through and change everything correct it and that kid went on to get A+ the rest of the year and everything was perfect. It was just that confidence in turning the corner and that is the kind of thing that we hopefully will instill in lots of kids. Tony, the kid who sat there and was assigned to General Math and said “I ain’t’ taking that. I’m taking Algebra.” Sure enough somewhere in the middle of the year, I said “Let him stay if he wants to come to a higher level, more power to him” and he was the one who answered the abstract questions in Algebra and there is Billy who told me eleven years later that without the encouragement that I gave him to please go to PE and that it was a state law. He did need sneakers and had a dysfunctional family and a mother who was unfortunately an alcoholic and took eleven years before I found out that he was going to commit suicide and didn't. He said he graduated from high school and went into the military and learned to be, I think to be a welder, and have a wife, a family, a baby and a house and I thank you. Those are the kinds of things that so many people miss because they don’t focus on the individual kid. There are many more and I am sure you have them too, but crediting Max for saying you have to pay attention to those kids, know your kids. That is the first thing. “Know your stuff, and stuff them artistically,” Max said. But Max’s magic brain teasers, stretching your thinking, challenging the imagination, coming up with creative solutions, different ones, multiple solutions to problems, I still have a whole stack of big index cards with his brain teasers but there were some magic ingredients needed to create those “ah ha” moments and Max Sobel was an expert in affecting that result and you all I hope experienced that. He had that twinkle or sparkle in his eye and he lifted his shoulder and kind of waited and it would make the kids contemplate, he wants me to say something, he wants me to think of something and what do I think is going to happen, and he had that sense of hesitation and waiting. He had a little wondering smile and a little suspense and he raised his shoulder and enthusiastically go

through what he was looking for. But he would model it, fold it, build it, stretch it, crush it, analyze it, he used string, clips, straws, rubber bands, sand, beans, rocks, gum, wood, foil. You name it balloons, music, water, magnets and I was always known in my high school teaching year as “the bag lady” because I carted all those things around and I still do. The overhead projector he was a pro, the greatest tool for teachers but he was using those manipulatives before they were even known as manipulatives. Because of him I took time to teach that teachers don’t have but have to make the time Pi as a ratio, not the formula, we measured circumference and diameter from everything from a straw to a huge tree that took two kids to put their arm around it and the rims of a truck tire. Figuring out things like that and three d soap bubble geometry or building a model for Pythagoras and 3-D models and one of my favorites is from nutrition labels from the fast foods and you scooped out those teaspoons of sugar or Crisco from a can, and you make a bulletin board and you just show how many teaspoons of sugar or how many teaspoons of fat are in those comparative foods, that will knock their socks off. Figure out the volume of a room, just don’t multiply and count and so forth but we figured out ok if ping pong balls packaged in one-inch cubes sort of boxes, how many could we fit into this room. How many basketballs in one-foot cartons could we fit. Not that gets them thinking, and that is exactly what Max did, and so I always wanted to be the Max Sobel or Evan Malesky or wherever I was. I still try to do that. Read and tell stories of the great mathematicians from Rene Descartes, Archimedes, Aristotle and so many. I am a fan of books whether it is *Math Curse* or *Counting on Frank*, *How Big is a Million*, *The Greedy Triangle…* I mean there is an endless list. I must have 250 books for all ages including high school where you can do great springboard activities and get them going and have them write. But he did stretch the minds and poured knowledge into them, seemingly effortlessly, he was just a magician about that, it was very smooth. His little book *The Art of Teaching Math* was very challenging. I found that I was always embarrassed if I didn’t do something that he expected me to do, that was just a killer. One time I didn’t read the book that he assigned and he asked what does it mean to “ERR”, so I

wrote about the errors that we make and it wasn't that. It was about teacher and when they teaching and they say "Err, err, err…" I never wanted to disappoint that man, but when I was a student I did not realize the impact of the Math Department in Montclair until when I was teaching, I went to the University of California in Santa Barbara through an NSF Institute. When I was registering they said Montclair State, are you lucky? I said "yeah I am" because I had Max Sobel and Evan Maletsky. They said "that is one incredible college" and I was so shocked until I found out we do have that name and because of Max and Evan but also all the hats he wore and the colleagues in the Math Department, Meserve, Davis, and Mallory and preceding them but we were well known and they were all part of this little college that I never wanted to go to. I wanted to go away to college and I had to commute by two buses for an hour and a half in one day every day, one way. All my friends went away to college but you know what, it was the best thing that ever happened to me. Montclair just launched this incredible opportunity and careers for me and it started right off the bat with Max and Evan. It can't say it separately but they pursued me because I wanted to teach in Middle School because I did not want to teach geometry because I had a horrible geometry experience. I had straight A's in an honors geometry, all we did was read steps from proofs all day for every class that was it and my best friend said "oh I love geometry." Well I never told anybody the truth about why I wanted to teach Middle School, and they said to me you should teach High School and you can teach calculus. No that's already I really like that age, which I did. However, I finally landed my job and I did student teaching that was split. I mean I was really campaigning and planning this for four years. So I got a job in Scotch Plains and Fanwood and I was thrilled to teach and two days before school opened, the principal called me in and said "your professors have recommend that you be the one to teach Advanced Placement Geometry to our ninth graders". Well of course I fell in love with it because I found out what it really was and could be and I always enjoyed it when they did it but I did not think I wanted to teach that. So I am very indebted to Max for the most incredible inspiration, challenges, teaching techniques and strategies. He had an endless

assortment and the content matter that he transmitted so artfully. It was fun and satisfying and Montclair graduates were in high demand so, and in other majors too, but we thought Math was the best and special. So it is an honor to say you were a Sobel protege and endeavor to live up to his expectations so I offer thanks for the love and the guidance that only a phone call or a letter or conference meeting away, he would always respond and it was very special.

EDITED Sobel Tribute transcription-Stephanie Cooperman

Back in 1960 I attended Montclair State College as a Math major. I ended up as a Math Ed major because mother suggested that getting a teaching degree would most likely always provide me with a job. That was very fortunate because I moved down south and teaching was the only job a woman could have (sic) that was good. I hope things have changed. I had many excellent teachers at Montclair College but in particular I was mentored by two giants in the field of Mathematics Education, Dr. Max A. Sobel and Dr. Evan Maletsky. They were enthusiastic and engaged in ways of presenting important mathematical concepts made a lasting impression upon those of us fortunate enough to have them as our teachers for our Math education courses. Additionally, I had great good fortune as being hired as their student assistant for the Science Foundation Math Summer Institutes. One of my major responsibilities was to transcribe and type the galleys of the first book in which they collaborated. "Math E. Matics" was the young student featured in most of the lessons which emphasized student discovery and group problem solving activities. Sounds like the modern times doesn't it? Max signed one of these books for me which I treasure to this day. We often investigated interesting Math relationships such as those modeled by Pascal Triangle and Fibonacci sequence which is one of my favorites. I will never forget the time when my friend Evelyn and I decided to decorate Dr. Sobel's office to show him how interesting the sequence was. We taped in inordinate number of paper bunnies on the walls, in the windows, around his desk knowing that he would be charmed and amused by our engaging and creative decorative efforts. Dr. Sobel had a wonderful sense of humor and we knew that he could only be delighted by the new office ornamentation. However, we were not aware that he would be returning to his office for an appointment where he was the subject of an extremely important interview. So here this esteemed and respected Jewish (sic) scholar in Math

education ended up being interviewed surrounded by a plethora of Easter bunnies. To this day I am not sure if he will ever forgive us. I have a picture of this but could not locate it last night. I wanted to bring it and show you. The method courses with Dr. Sobel were the best classes I took over the four-year program. He never ceased to amaze us and he instilled in us a desire to take every opportunity to engage our students in interesting, challenging and thought-provoking problems that would enable them to grasp the meaning and the concepts behind the beauty of the Mathematics and to develop the understanding that served to underpin the procedures and process that lead to solutions. The development of our student's skills was predicated upon on the core of conceptual awareness that made the learning fun and easy. Like isn't it great when a kid comes and tell you that you are their favorite Math teacher and that they always hated Math before your year. You made that much of an impression and you are a tough teacher but you made it fun and interesting and they remembered. This has been a cornerstone of my teaching for my entire career--now approaching fifty years in the classroom. Dr. Sobel's love of Mathematics motivated me to be creative, look for the way to teach outside the box and give my student the same love of Mathematics that Dr. Sobel instilled in me. His enthusiasm, excitement is at foundation of every problem, challenge and project that I have created over the years to make Mathematics enjoyable yet substantive for my students. Dr. Max Sobel has been my teacher, my mentor and my friend. I would have not become the teacher that I am without his guidance. I know I am only one of thousands that have profited from his expertise, his caring and his advice. His leadership at the State, National and International levels is unparalleled. His response to a nation at risk lead the change for ensuring that the learning of Mathematics should be based upon conceptual understanding and not rote-repetition of procedures in order to arrive at solutions without knowing why. Although his voice has been stilled, his influence will permeate

throughout the ages. I for one have been blessed to have learned from one of the best and have counted him as one of the greatest inspirations in my professional life. I am sure that I speak for all of us when I say he will be missed, he was unique and we are all honored to have benefited from his creativity. From all of us, thank you Max.

EDITED Sobel Tribute speech transcription**-Janice Lynn Shuhan**

Thank you. Good evening. I would like to share two experiences from "ancient times." We will call the first one the intro to MSU. I first met Max Sobel as a freshman, freshmen orientation in 1977 at Montclair State Memorial Auditorium. He was the keynote speaker. Now if there was ever any doubt about entering the teaching profession, this innovative speaker made certain that I, (as I'm sure many others in the room), left there motivated enough not only to complete the undergraduate program but to also land a teaching job and maybe even make a return visit to Montclair State for their graduate studies while working full time in their field. Max Sobel was a wonderful liaison between one's aspiration and one's pursuit.

Besides being a great motivational speaker, Max Sobel had a sense of warmth, class and a respect that invited you into the profession and made certain you were in it for the long run (i.e. positive infinity). In my opinion this was a crucial characteristic for a professor in the 70s. What I mean is… the times were different. For example in my high school Calc honors class, then called Calculus Enriched, out of the fifteen students that enrolled in the class ten of them were boys, and the ratio wasn't much different when I began my classes at MSU. In any event, after I walked up and congratulated Max Sobel on his inspirational address, I thought to myself, "Gee, if this is what the profs were like at Montclair State I am going to really love it here!" So I eagerly hoofed it over to the Math/Science building to meet my advisor. When I got up to the second floor, I ran into a second professor at Montclair State and asked where I could find my advisor-- and with a funny grin-- he kind of gave me the once-over and said, "Are you sure you are in the right place? This is the Math/Science building." Oh well I guess we'll just chalk it up to the 70s… and so my journey at Montclair State had begun! But Max Sobel was the ideal host for welcoming students into the learning program and into the teaching profession.

At Max Sobel's recommendation I joined NCTM and later AMTNJ and started attending most of those standing-room-only lectures on "Motivation." These lectures by far gave me the "fix" I needed to persevere, and from the overwhelming attendance at these lectures there were many others who came for their "Max fix." Like me they all went to the conferences to get re-energized and like the Energizer Bunny they kept on "going and going, and going…"

For the second "ancient" experience, and let's call this one *self-actualization*, occurred when I first had Max Sobel for a course. It was at the final undergraduate semester just before student teaching when I took the famous *Methods of Teaching Mathematics* course. Now by this

time the ratio of men to women was about 1-to-1 and this course assured me beyond a shadow of a doubt that I really *was* in the *right* place.

After a few lessons in which Dr. Sobel entertained different methods of motivating students, he assigned our first project: Choose a geometric topic and select a method of teaching it to a tired group of uninterested teenagers (i.e. think outside the box of the traditional 70s math classroom). Have it ready for the next session. During the next session Dr. Sobel is seated in the rear. I enter the room with a bag, then I left the room before it was my turn to go up and then when I was called, I entered the room in ancient Asian ceremonial attire. I placed my colored shapes on the overhead glass, stepped up on top of the chair and then on top of the teacher's desk and using the overhead screen proceeded to demonstrate a lesson on Chinese Tangrams. Not sure how I remained serious for ten minutes while the class totally lost it, and Dr. Sobel's face was beet red and beaming. It was a blast! Max Sobel validated and even encouraged non-traditional teaching methods, and for me these methods blossomed and lasted throughout my teaching --career and even influenced my choice of doctoral topics from my research. My general topic was "an interdisciplinary approach to teaching geometry through the multiple intelligences." Some here may recall five years later Max and I coauthored an article of this type for the New Jersey Mathematics Teacher in 2011. (editor's note: article was reprinted in NJMT in July 2017 Vol 75 No 1 pages 9-16)

Max Sobel's message to teachers *then* is still good *now*. Don't be afraid to step outside your comfort zone to make Math fun for your students. Max was a visionary and a legend, and I know he would love it if you could help me conclude with a cadence he often used to end his conference lectures. Are you game?? [Audience respond yes, sure, …] He first would ask, "Will anyone who has *ever* taught mathematics please rise? [Almost all stand up]. Kindly repeat after me, hold… wait for it… "Two, four, six, eight, teaching math is truly great." [Audience repeat.] Then Max would normally say "Oh, come on, you can do better than that! 2,4,6,8, teaching math is truly great!!" [Audience repeats louder]. [slight pause-then just me]:
Two, four, six, eight, knowing Max was truly great-- and thank you for honoring him!

EDITED Sobel tribute speech transcription-**Evan Maletsky**

It is a real pleasure being here. Thank you, Kristie, for the invitation. Yesterday I talked with my wife and I said how could there possibly be anything left to talk about relative to Max Sobel if they are putting me toward the end, and she had two words of wisdom: "First don't use the overhead projector (because she knows that I could get hung up on that), and the second thing was, "Keep it short!" As I left today, (left home to drive down here) I looked at her and said "ok, I won't use the overhead projector, but to 'keep it short' simply isn't possible, in whatever condition, to keep a dialogue short when you are talking about somebody who has influenced almost everybody in this room and certainly changed my life. Because when you hear the history of how we connected you'd realize that we were two very, very different people and what you see *here* is a product, a real *product* of Max Sobel. The story begins in 1957; it was the Summer of 1957, and I had finished two years in the Army and I faced one year of teaching at Pascack Valley Regional High School. I was teaching half Math and Geometry and half Physics. I was taking a Summer course at Montclair the Chairman of the Department; Bruce Meserve was teaching it and he came up to me afterwards and said, "Come to my office I have a question I want to ask you". Now I had no idea what was going on. I was a pretty good student, so I wasn't fearful of the potential of his complaining about what I was doing in class, but he offered me something that was totally unexpected. You see there are six people in the facility and one had just then resigned and this was the middle of July and he knew that he had to get a replacement before the end of the year. For some strange reason, this must have been flashing through his mind when he looked at me in that class because he offered me this invitation to come to Montclair. That is how it all started. I would not be here, and had not taken that class because never in my wildest imagination would I have ever thought of even teaching college alright, let alone teaching with someone like this. Now you probably know that I tend not to

write down things but if I don't put my glasses on, I will not be able to read it, but if I don't write it down this talk will simply last too long. The early experiences that I had with Max Sobel are really interesting so let me summarize a few of them very quickly because he came the same time I did. Who got the big office? He got the big office. I got the small one. Who got to teach calculus? He did. I got to teach Social and Commercial Uses of Mathematics. Now some of you may remember that course but if you look at the first letters of that Social and Commercial Uses of Math. They spell scum and that is exactly what every student that took that course said. That's what I got. He got Fridays off. I had to teach a three-hour surveying lab in the afternoon outside. He had a doctorate from Columbia University. I only had a Master's degree. He had years of teaching experience. I had one year of teaching experience and only half of that was in Mathematics and I was coming to the college to teach. He was the upcoming President of AMTNJ. He was President in 1958 and this was 1957. I wasn't a member. He knew everybody in Mathematics education and I didn't know anybody. That's how it all started. By 1958 I was still trying to find my way around campus. He had already submitted and received an NSF grant. It was a very different situation when you compare Max Sobel and me. What I quickly learned was that I had started teaching Math at a very exciting time and this became immediately clear to me because in 1957 Russia put up a sputnik and a whole new arena opened for anybody in Mathematics Education, but for some young guy like me, it was an excellent opportunity to join the university of teaching. Something else quickly became apparent. When you are the "new guy" here not only would I have to master the subject that I was assigned to teach, but I had to be competitive with this guy and that meant I had to sharpen my skills in teaching. What you know of me is not what I was when I came to Montclair. It was what I learned by watching this fellow. Well you could not imagine coming into a new situation really totally unprepared and having as

your model Max Sobel. What a blessing that was! As it turned out for the next four decades, the 1960s, 1970s,1980s and the1990s, I remained an active learner watching and working bit by bit forever sharpening my teaching tools based upon what I saw in Max Sobel.

Ok one more page, but this page is a problem because I told myself that I was going to write two pages and the writing gets smaller and smaller because I had to cram it in on here. I want to impress upon you first of all that I really am the result of what I learned from this fella because traditionally I was a very conservative, reserved person who really--oh I loved Mathematics, don't misunderstand that--but I was not a people person. I never ever became the people person that Max is by the way, but I learned that you *had to be* if you *teach*. You had to look at the students in the eye. You had to deal with things. But what did Max really teach me? This was shortly after I got my degree and he made an invitation for me to write a first book together. This was totally unexpected. We were driving down Route 46, through Clifton I think it was, and he said, "Let's stop for lunch at this delicatessen, they have very good corned beef sandwiches." I said, "fine" and sat down and we ordered and when the waitress said, "What you want to drink?" and I said, "milk," I think Max was thinking, "What did I get myself into?" What did I learn from Max? I learned from Max was what you are supposed to drink when you are eating corned beef sandwiches. I am coming to a course for Max Sobel's and he is teaching at Columbia University and it is a night course. I had been there before. I drove into the city and I'm standing at 42nd street at the subway waiting to go uptown. I would look at the map and where I was going and there was a young lady next to me and I said "is this the right subway (as it approached) to take to Columbia?" "Yes" she said. When the subway took kind of a right-hand turn under the river I knew that something wasn't right, but we departed, and I walked around, and I knew I was lost. Now I always tried to get there early (except for tonight). I had

plenty of time, but I was nowhere near Columbia University. I made it at the stroke of the beginning of class and who should be sitting in that class room-- you could finish this story-- that lady that directed me back there at Time Square. There are wonderful stories, we all have them, and I hope you don't mind but I want to share this with you. They are loveable and very dear memories in my particular case. I was giving a talk out in British Columbia, Vancouver. I'm not too sure and Max came into my office and said look you are going out tomorrow would you track down this fella and tell him I am scheduled to speak in three weeks, but I have not heard any information recently. So, I go out there and I find this fella and ask him did you invite Max to give this talk. Yes, did he accept. Yes. Well he wants to know why you haven't told him because you are only three weeks away and he just burst out laughing. Oh, three weeks away. It was for next year. What did I learn from Max Sobel. If you want directions to his class, don't ask one of his students, that was from the last talk, and for this one- when you accept a speaking date, be sure that you look at the year as well as the day and month. We didn't share an office, but our offices were next to each other and he would often just come in and sit down and I would have no idea what he was going to talk about, but he would talk about something. He comes in one day and sits down and gives this broad smile and says I had a wonderful time last night. My granddaughter talked for me for the first time with a reasonable conversation over the phone. I listened patiently. I left and told my wife, it can't possibly be that good. What did I learn from Max Sobel, when I had my first grandchild I knew that he was right. Max was a great magician, you know that, and he would do all sort of little tricks. It was tempting for somebody to go out and replicate that. I tried exactly once. I don't remember the problem exactly but it had to do with a dollar bill and folding it up and something with a serial number and I practiced this and was sure that I could perform this and there was an audience out there and it was the

Pennsylvania AMTNJ meeting and I had this contestant come up with a dollar bill and about half way through I could feel this whole experience and I could not pull it off and I learned from Max Sobel that he is not what he is about, he does not do these things for you to copy those things. He is doing these things for you to create your own things like them. That is a huge message and I think a lot of people saw in Max a model to copy, but what they were going to copy was those very jokes, those very activities, those very stories and no, that is not what it is all about. So, I do want to share with you I loved Max, but I had to create my own things based upon what I saw as successes in what he was doing. That one-year teaching in high school, or that half a year teaching Math in high school. I never once used that overhead projector. Now if you know me or listened to me or had classes with me, or heard me talk I loved the overhead projector. Even my wife remembers that, alright, but it was only when I saw what Max doing that I said this is a great teaching tool, but you probably know full well that what I did with the overhead projector was not what Max did with the overhead projector. I did something entirely different. My activities involved among other things sewing snaps. I was the *only* Math professor in the country that would buy out all of the sewing snaps in a store because I would be making these transparencies that would move. Where did I get this idea? It was my idea to use the sewing snaps, but it was Max's idea that the overhead projector could be a dynamic tool and that is what I learned there. The stories are endless, but they really should be shared because I think sometimes we underestimate just what kind of person this was and what kind of influence he had on everybody. He loved his stories about history. I can't tell you how many times he repeated the story about Evariste Galois and the dual in 1832--a fight over a woman. He loved the story and just talked about it over and over again. I have never mentioned once during my teaching (except tonight) because you know why don't you? Because I had to go find my own stories that

I really liked and had to repeat those stories. Do you know the story about 29,002? Mt. Everest. This is one of the stories I like to tell. When would you round 29,000 to 29,002? About 150 years ago when they measured Mt. Everest, this is recorded you can go on the internet and download it, that they measured and got 29,000 and these surveyors were smart enough to do what? Know that they reported this as 29,000 and that no one would believe them or that they think they measured to the nearest foot. I like that story, so I can get enthused by telling that story. Max did not teach me the story, Max told me that if I had a story that I could relay to my students that I could connect to them to the math like he was connecting. This was an important message and boy was he a great teacher when it came to that. The importance of timing- so many times when I observed classes I go in and see the teacher and of course the teacher would be nervous, and I understand that as a student teacher, they would simply write the formula on the board that was today's conversation, and then talk about how to use it. No, Max Sobel would never do that. He would, and I have never seen this happen, but I know it happened, he would bring a firecracker in and in the middle of the lesson when he got the formula he lights that firecracker, so everyone woke up or he would write the formula on the board, but he would cover it with paper and at the right time he would rip that paper off. Timing is absolutely everything and boy it was crystal clear when I saw him teach that if you got something special you got to spend a lot of time on figuring out how to put it to the class, so the students could really be captivated by it. He was a master at that and I was the learner and throughout those four decades that I taught with him I was forever watching what he was doing and packaging it in my own way and he was expecting everybody to do that kind of thing. That was one of his very greatest gifts. It is not what he did, but how he influenced you to become better teachers yourselves. He would come to my office. He would do this at least once every two weeks or once every week

and comfortably sit himself in a chair and say have you seen this problem? I could not tell you how many problems he has given me and said have you seen this problem? Some I have seen, most I have not seen. Were they were good problems, they were *all* good problems. How could he *not* come with good problems? He just loved good problems. He devoured the books, he simply read all of the books with all these good problems and when he found the ones that were really good what did he do? He would come next door to me and asked me about this problem. His enthusiasm just bubbled out. It was just so very apparent. I did not get that feeling for those problems. The problems that I became interested in were different kinds of problems but they served the same motivational purpose. Max Sobel loved the problems that were really challenging. You know the locker problem, if you do not know the locker problem, I will not repeat it. Max just loved the locker problem. Now the locker problem is at a certain level. Over the years as I watched Max and listen to the problems that Max would talk about you know I am going to sort the problems but somehow, I wanted a different sort of problem and while I think I got pretty good at those problems that were the opposite level. Problems at the very simplest level that if you did not think twice about that problem, you would pass it by. We so often have very problems in the classroom, very good problems in the textbooks and we miss out because we just do that problem and we are in a hurry to do the next problem, I am absolutely convinced that if we did half as many problems and twice as much with each one, we would be better teachers. So, I sought out, and I owe this Max, because he got me really interested in problems, but I had my own little twist on this thing. It is very important if you got a good problem to start with a simple one and lead up to the good problem because if you reach the student at the wrong level all is lost. I don't know how to share this in any simple way, but it is very intriguing. I would love to throw a couple examples maybe out to you. My wife will not forgive me for this.

I did not pass this out, I cannot tell you how many talks I've given around the country where I have cut out hundreds and thousands of paper circles. I do want to ask you a simple question: If you look at this circle what would you do with it? What do you see? And the real big question is, if you look at it long enough and think about it long enough you will see more than the circle and I think sometimes when we talk about the circle, we talk about the circle and we are onto something else. Do you see the equilateral triangle? Do you really see it? I don't know if you are lying or not, so I have to show you the equilateral triangle. Max would do this, see there is the circle and just like that it's an equilateral triangle. That may not bother you. That may not be amazing to you. Let me tell you it is incredibly amazing to me. In all of geometry there are these huge polygons. There is a huge collection and over here is another kind of figure. They are not connected. This is beauty. This is simply beautiful that I could go from one to the other that quickly. Where did I get that idea? I got that from Max. Mathematics has to become alive. Max Sobel could make Mathematics come alive. So, tell me when I hold the circle up do you see anything else? Do you see a cone? What kind of a cone? Or is it not a cone? Sure, it is cone. I remember doing this in 8th grade and the jaws drop. This is what I mean by looking for problems, there is so much going on here. So, one of things that I learned from Max is when you get an idea and he was good at this. When you get an idea, work on it. Make it click because if you don't see the cone, cut through the center once and curl it up and there is the cone. Now pass the circles out to your class with paperclips and now keep thinking, what would you do with this cone. See for some people that is kind of neat. The circles are two dimensions, this is three dimensions, ok I'm done and go onto the next thing. What other questions are you going to ask? And Max kept after me over and over. What more could you say about cones? Well look at this cone, why is this cone better than a wooden one. It changed the shape. Where would you put it so

it has maximum volume? Oh, that's kind of nice. It has no volume here but if you curl it up tight it will have maximum volume. There is so much that you could do with some little thing like this and that was the magic that Max Sobel had. The magic that Max Sobel had the ability to take an idea and milk it for what it was worth. My wife told me don't use the overhead projector and I told her that I would not use overhead projector, but I did cheat a little bit because I did go to my files. When you retire you come home with a huge pile of stuff and you sort through it but then when it is all done there is another pile that is all the stuff that you are going to save but didn't fit in any of the piles. I rummaged through that this afternoon. Here is a transparency that I made, it is my transparency this is doing something with the overhead projector that Max Sobel did not do but this is Max Sobel speaking through me. Because I was willing to take the time to cut those letters out with those color things long before we had the fancy technology stuff. Because I felt that it would impress the students and everything that Max did centered around the time to impress the students. Of course, I picked one that will ignite interest that's what he did. Max Sobel was a gift. The stories are endless. The print is getting smaller and smaller, I don't have my glasses on but I do want to leave with a quick story. First of all, I don't want to neglect the fact that Elliot Sobel is here, so I want to relay a story about Elliot. One of the things that Max loved and I concurred with him, is that he loved to teach because he wanted to excite his students so much so that they would want to come back to his class. So, to do that you had to have some magic and you also had to find that one piece of paper that you are looking for which I know is someplace, but I can't find it. Anyway, if you know me you know that I have a favorite number. I hope you have a favorite number. It doesn't matter what the favorite number is. I hope you have a favorite number. My favorite number is 257. Now that may not mean anything to anyone here, but if you taught the eighth-grade class that I taught for sixteen years at Montclair. Every

kid in the class knew that 257 was my favorite number. Every college class I think that I taught I hear it once or twice. You keep using it over and over again and sooner or later someone in the class asks why is that your favorite number? And I never told a soul and I will not tell you, but Elliot Sobel wrote a book "Wild Heart Dancing" and he was at Barnes & Noble giving a book signing so I went there and stood in line to have him sign the book and he signed it and I went over and looked at it and it said the following - I would have made this 257 pages but I didn't have that much to say. Now here is somebody who I have not seen for ten, fifteen years and maybe I should wish that he remembered something important from the Mathematics, but you know what? He remembered that. The thing that Max did was to excite people by having all of these curious little things and his message to you was not to copy those things that he was doing so much but to create your own set of good stories, good activities and milk them for what they are worth. Those are the things that can excite you. Max was good with his card tricks, he was a real mathematician. I was not a mathematician, but I saw magic everywhere in mathematics.

Many, many years ago in my church we had movement to try and raise funds through tithing which was not successful, but we went out to the church members and would visit the homes and tried to get them to tithe. I had a slight advantage over some of the others on the team after the conversation went on for a little bit, I looked them straight in the eye and say "look if you can't afford to tithe, at least give a ninth or an eighth and I would watch their expression on their face and if there was a twinkle in their eye, a smile or a laugh I knew for another minute or so we would have a friendly conversation but if nothing happened I knew all was lost. What does this have to do with Max Sobel? I want to leave you with something and this is dead serious, and it is possible that you may have missed it. To be a good teacher you've got to work hard, you have got to work really hard. If you think what Max Sobel did was just his second

nature or there just to be exercised, you're wrong. He thought ahead about absolutely everything that he thought was worth thinking about. From writing a whole textbook to giving a talk at a general session to motivating his Algebra One class on quadratic formula. He worked hard on those things and that is an important message. So, when I think about Max Sobel and hard work. When Max looked at a job and he estimated to take *ten percent* of his available time, he was freely willing to give *one ninth,* or *one eighth* if he believed in it. That is what would make a teacher into a good teacher, and that is what makes a good teacher into a great teacher and Max Sobel was the best of them all.

Editor's note: Evan Maletsky did some rambling remembering the good times he experienced with Max Sobel. You had to be there in person to appreciate fully Evan's presentation with his homespun expressions and handheld visuals. –JMN-

EDITED Sobel tribute speech transcription-**Kristie Prokop**

As you can hear Max Sobel touched the lives of many. I was fortunate myself to have Max as a professor for *Selected Topics in Mathematics* education course. He was an inspiration and was encouraging right before we ventured out into student teaching. Now I shared this story with Evan (Maletsky), the first time I met Max I was in high school and there was a Math Day at Montclair State and my high school teacher at the time the late Leon Vergon was also a student of Max and Evan and he said you have got to see these guys, and I'm like "ok". I was still in high school and I knew I wanted to go to Montclair. I knew I wanted to major in Math and he brought me their book and he introduced me to each of them and they signed it. So now I have an autographed copy of the book, but that was not enough. I had to find them and take their classes and I was looking back and I consider myself an organized hoarder and I was looking back at my selected topics in Mathematics Education binder that I still have from Spring of 2001 and I still have Max's notes that were encouraging saying that you will be a great educator and his enthusiasm was contagious and I think about a tree of life and Max is the roots. He teaches his students; his students teach students. We are all branches of the tree of Max and sometimes they are intertwined as I was a student of Max and my teacher was a student of Max so we kinda circled back the tricks and surprises that I saw in high school, I saw again in college. I was like "that's where that came from". So, it was the excitement that was contagious, and I hope that I am able to inspire my students in my classroom with the same inspiration and contagiousness that has been passed along to me. Before we end tonight Makoto Yoshida, our next President has put into his initiatives to establish the Max Sobel Scholarship for Higher Ed. So, this scholarship will be used for students who are returning to school to be Math teachers that maybe have not have gone that route in the first place for their bachelors.

EDITED Sobel tribute speech transcription**-Elliot Sobel**

Often at things like this, the thought goes through one's head, my head, too bad they didn't do this while the person was alive to appreciate it and I can't say that because my father was acknowledged and celebrated and honored and tributed time and time again throughout his life and his office wall is littered with plaques that we were wondering what to do with and now we have another one to wonder what to do with. One of the many tributes that he received was almost twenty years ago maybe in the Spring. It happened to be the first time that I would introduce my wife Shari to my parents and it happened to be an evening in Washington, D.C. It was a special ceremony the Life Mathematician Trust was awarding Dad with a "Lifetime Achievement Award" and it was in the form of a medallion and they called him up and presented him with this medallion and put it around his neck. Almost instantly, I don't even think he spoke. He called my mother up on stage and took the medallion off and put it around her neck and gave her credit for his entire career as the muse, the driving force, the reason for which he did everything and the person who continually encouraged him and inspired him and many of you know the story. I will backtrack just a little bit when I was about eight years old I had a toy typewriter but it worked, but the way it worked was you had to move the ball to each individual letter and then hit the button, then move the ball so I spent about an hour getting one paragraph and I made a mistake on the last line or the last word and I was so upset that I had wasted an hour of my life and it didn't turn out and I was crying and upset and my father was up in office working and he came down to see what was wrong and I told him "Dad I wasted a whole hour doing this and I wrecked it" and he told me the story of how he once spent an entire year working on his Ph.D. thesis and at the end of the year Columbia rejected it and told him to start all over. I don't know how many of you know that but his response to that news gratuitously was to quit the program and become an assembly line physical lifter at the Coca Cola bottling plant. One thing about Dad was that he was never a lifter, he was not an athletic type and he came home every day sore, complaining, muscles hurting and my mother had not bargained for this she was engaged to hopefully marry a Ph.D. in Math, not a Coca Cola bottling plant lifter of boxes, and she gave him an ultimatum "Either you go back to school and complete your degree or I quit this relationship," and it was

a no brainer and the rest is history and that is why fifty years later that she got the medallion around her neck and I am thinking that I will hang this plaque in her room at home. She remains in our home where she lived with my Dad and they would have been married seventy years in another three weeks, December 29th they would have had their seventy-wedding anniversary. He was devoted to her care-- until he fell three years ago and suffered a brain injury-- the prior thirteen years of his life he stopped everything to care for her full time at home, to keep her at home and she is still at home. This plaque will not go on his wall with the other ones. I will put it in her room opposite her bed. You guys knew Dr. Maletsky and Dr. Sobel as your college teachers. I had Dr. Maletsky for eighth grade and the unique privilege of having my own father for ninth grade Algebra and as a teenager that is good news and bad news. You cringe thinking that your father is going to embarrass you. The amazing thing is he never embarrassed me, he made me proud as I hid in the back row and pretended that I didn't know him, but I looked around and watched all the students just be entranced by him and Dr. Maletsky got the firecracker story a little bit wrong. Dad didn't light the firecracker. Dad spent that whole one class filling the board with quadratic formula and when he got to the very end and to the punch line whatever that was, I don't remember it, but I do remember this he wrote down the word "Eureka!" and at that moment he had his colleague Bill Ross would sneak into back of the room and he lite the fire cracker in a tin pail and it came from behind us and we all jumped out of our seats and for at least a number of years we didn't forget the quadratic formula but for lack of use you tend to forget these things. One thing that I remember Dad doing, this was his Math warm up for ninth graders and the difference between he and I is he did this spontaneously in his head in the moment twice as fast as I am about to do it and I am reading it because I had to prepare it, but he just made it up to get our wits about us. So, you Math heads get your heads together this is how Dad would start the class to get us on our toes. These are calculations to at least give you a heads up. 3 x 7 + 1\2 + 1\2 +1 x 3 - 3\3 + 3 x 2 - 7 - 3 + 6 -2 x 4 + 1\7 + 5 - 4 x 7 + 4\10 + 1 + 8\5 - 3 = ("257") You guys are bad because in high school some of us would usually get it and he was doing this in his head quick. I will do it a little slower and give you one more shot. 3 x 7 + 1\2 + 1\2 +1 x 3 - 3\3 + 3 x 2 - 7 - 3 + 6 -2 x 4 + 1\7 + 5 - 4 x 7 + 4\10 + 1 + 8\5 - 3 = 0 you can check my math. So that is how

he would get us on our toes as soon as he walked into the classroom often. One of the most amazing things about his passing was we had a gathering at our house for people to come and pay their respects for the next two days and person after person that I never met before, some of you are in this room, showed up and introduced themselves by saying to me your father changed my life forever and after while it was like, really? really? included a little old lady with a walker who came in and said that she had studied with Dad in 1954, which is 62 years ago and she showed up at our house to let me know that and I wasn't all that surprised to be hearing it because the truth is every year that I have known Dad he would receive at least half dozen first snail mail letters in those days, and later it would be emails out of the blue randomly, spontaneously from students he had forty, fifty and like this lady sixty years ago who would feel motivated to suddenly write him and tell him that he had in fact changed their life forever. This was happening all the time to him so like I started he was plenty acknowledged during his lifetime. He had to know the difference he had made on all of your lives and thousands and someone told me millions of people, which is hard for me to grasp but I guess it increases expeditiously go by the students he had, the students they had and their students, it grows quickly. You know the rice on the checkerboard story? So, the other things that I realized coming here is I brought the eulogy that I delivered at the funeral. I didn't prepare much for tonight. I jotted a few things, but you can only write, and you can only deliver one eulogy for your father. Some of you were there, most of you weren't. Sorry but I can pick out a few things that I did think were relevant tonight I said I had him as my Algebra One teacher but what I didn't say was that it was a double whammy that we used his textbook The Banks Sobel Walsh Algebra One books and then it was a triple whammy because in those text books there were verbal problems like if Elliot is heading west at seventy five miles per hour and Harry, my brother, is leaving on a train heading east at 7:00 a.m. going sixty miles per hour and so forth. He would always include if you liked through those verbal problems members of our family until political correctness and rational diversity insisted that he change the Johns to Juans and the Marys to Marias in the new editions. In those days I would be called a serial monogamous, so I had a new girlfriend every two years so for every new addition of each book there was same problem but with a new girl. One year it was Karen mowing a lawn, then it was Sharon,

then it was Jan, then it was Fran and I finally met my wife late. We met when I was forty-four, twenty years ago, and it was just at the time that Dad had retired from writing text books, of which by the way he wrote over sixty and they were translated into multiple languages include Chinese, Japanese, Indonesian and Spanish that I know off hand. We have them on our shelf, so Shari didn't make the cut, he just had retired. She never made it into a problem and then it was like a miracle at that last minute one of his publishers begged him to do one final addition of one his books. So just under the wire Shari slid in and made it into a problem and as far as I can remember her train was going eighty miles per hour and heading north. I just wanted to read two little letters I got, two notes that I got after he passed, one was from a college high student which was the campus demonstration school where I had Dr. Maletsky and Dr. Sobel. This was a student from fifty years ago in 1966. He wrote me your Dad was truly one of the most important and influential people in my life whose example inspired me to pursue the career I did and become the man that I am, and I got another letter from a college friend who wrote the number of students that came to see Math as something much more than a four-letter word because of Max Sobel is legion. Max enriched Math from the inside out letting us teachers show students that it is the Math itself that is dazzling in an electronic world there is nothing like this. No flashing lights or dazzling marvels in any of Max's offerings. He showed us that the excitement came from the Math itself. As teachers and lovers of Math we knew that, but Max showed us how to impart that to others. Maybe the best epitaph for Max Sobel is what I overheard one boy telling a new student as he came to my class for the first time. This is Math, I use to try and get kicked out now it is the best part of the day. I wish they would let us stay here all-day long. So, I guess that's it. I just want to mention that Janice (Shuhan) was being a little bit shy or humble that in addition to their professional connection as student/teacher. For the last ten years of Dad's life she showed up at the house every single day for two hours or more to take him out and go for walks in the park or mall or if he couldn't go out to sit with him at the very end and feed him. She became his best friend and I think that should be mentioned. Thank you Dr. Maletsky for that wonderful reminiscence. I will treasure that. I can't wait to see it on video tape and show it to my brother or other

members of the family. Thank you, Kristie for this amazing night and all of you who spoke, Muriel and Stephanie. Thanks so much. Thank you, Dad.