Math Around Us

By THE MATHEMATICS DEPARTMENT
Deering High School, Portland, Maine

Dave and Bill, facing audience, are doing their trigonometry homework at a library table at the left of center. Bill uses a ruler and compasses occasionally; Dave, a slide rule. They discuss their work with each other once or twice with apparent enjoyment and satisfaction.
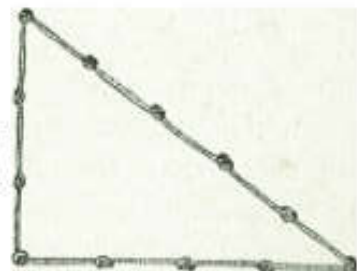
The Moderator (a student with mature voice) is at the microphone on the left. There should be two boys with contrasting voices and a girl at the microphone on the right. The tableaux form back of a scrim. The lines should be given slowly, with strong accents, so that the audience goes along with the rhythm.

MODERATOR: Who are these boys? And what do they study?
1ST BOY: The blonde one's Bill. That's Dave, his buddy.
They're doing trigonometry. They're both math whizzes.
They always get A's in their tests and quizzes.

MODERATOR: And now tell me something about your math,
I didn't go far enough along that path.
My check-book won't balance and let me relax,
And I have an awful time with my in-come tax.

GIRL: I take geometry. We use straight lines,
Circles and squares and regular designs.
There's geometry in nature, there's geometry in art,
And even in photography it plays a big part.

2ND BOY: I like algebra. We solve equations.
We work out problems for various occasions.
I try to find x in the manner I should.
When it checks, oh, brother!—do I feel good!

1ST BOY: I think geometry is much more fun.
You prove a proposition and then you're done.
They're all so logical, no two of them the same—
You just have to follow the rules of the game.

MODERATOR: I've heard that mathematics is very, very old.
The ancient Greeks contributed a lot, I'm told.
GIRL: The Hindus and the Arabs advanced it quite a ways,
But it started 'way back in Egyptian days.

Tableau 1 (center)

Three Egyptians in colorful costumes stake out the vertices of a 3–4–5 right triangle of rope tied with knots. In background is a painting, sketch, or model of the Great Pyramid.

2ND BOY: They had a lot of trouble with the old river Nile.
It overflowed its banks every once-in-a-while.
They had to have surveyors reapportion the land,
Rope-stretchers were the men who gave a helping hand.

1ST BOY: The triangle they're using is a 3–4–5.
                It has a right angle, as sure as I'm alive.
                The square of the hypotenuse alone pro-vides
                For the sum of the squares of the other two sides.

MODERATOR: The Egyptians knew that?
GIRL: Oh, yes, they did.
                And they also constructed the Great Pyr-a-mid.
                They really had a lot of engineering skill,
                These an-cient counterparts of our Dave and Bill.

Tableau fades

MODERATOR: Now let's come back to the present. You know
                Mathematical machines have stolen the show.
                I doubt if human beings, in the work that remains,
                Can hope to compete with mechanical brains.

2ND BOY: The computers, it's true, can reckon with ease
                The value of π out as far as you please.
                Two thousand places in the flicker of an eye—
MODERATOR: That sounds to me like an awful lot of pie!

1ST BOY: Electronic computers are a boon to mankind,
                But they'll never be the master of the hu-man mind.
                In their every operation they obey man's will,
                So we'll always need boys like our own Dave and Bill.

Tableau 2 (*center*)

There is a surveyor using a transit. An engineer is working on a blueprint. A Naval Officer is using a sextant. In the background is a painting or sketch of a bridge, a plane, or a streamlined train.

GIRL: In peace we need the architect, the civil engineer.
                In war we need the navigator and the bombardier.
                Think of all the modern uses of the primitive wheel.
                There's math in the gears of your automobile.

1ST BOY: Mighty steel bridges and super-highways,
                Vigilant radar protecting the skyways.
                All sorts of instruments of delicate precision.
                There's math in your radio and your television.

Spotlight gradually increases, directed on "Mathematics" portrayed as a mathematically spangled imposing figure, in rear stage center. Her gown is decorated with geometric figures cut from gilt and silver paper, etc.

UNISON: (*Slower tempo for emphasis*)
                Mathematics is "the queen and the servant of science,"
                Friend of the common man as well as mental giants.
                Her importance increases and she's won a lasting place
                In the history of our culture and the progress of our race.

Tableau fades