

# Fun with Mathematics

## An Assembly Program

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Cast: One boy who serves as M.C., and nine other pupils, including at least one girl.

*M.C.*: When you wrestle with numbers in a mathematics class, you sometimes wonder who is the boss, you or the numbers. You work and ponder, and squirm and finagle, and still the numbers refuse to behave! The way they keep giving you the wrong answer it looks as though they purposely set out to trip you up. But I'll let you in on a secret. That only happens with numbers that haven't been tamed yet. If a number has been broken in properly you can really get it to do anything you like. Let me show you. (Turns to pupils at board.) Everybody write the number 12345679. (To first pupil) Do you have a favorite number?

*1st P*: Yes. My favorite number is 4. (Writes it on board.)

*M.C.*: Then multiply by 36. (Proceeds down the line.) What's your favorite number?

*2nd P*: 7.

*M.C.*: Multiply by 63. And yours?

*3rd P*: 2.

*M.C.*: Multiply by 18. And yours?

*4th P*: 8.

*M.C.*: Multiply by 72. And yours?

*5th P*: 3.

*M.C.*: Multiply by 27. And yours?

*6th P*: Mine is 1.

*M.C.*: Multiply by 9.

*7th P*: Mine is 9.

*M.C.*: Multiply by 81.

*8th P*: Mine is 5.

*M.C.*: Multiply by 45.

*9th P*: Mine is 6.

*M.C.*: Multiply by 54.

*M.C.*: (Returns to first pupil) What was your favorite number?

*1st P*: 4.

*M.C.*: What answer did you get?

*1st P*: 4! 4! 4! etc.

(*M.C.* proceeds down the line. Each pupil in turn reads his favorite number and then he very emphatically reads his result.)

*M.C.*: If you tame your numbers properly you can do many remarkable things with them. You can even do mind-reading. Watch this! Blindfolds, please! (*M.C.* is blindfolded).

*M.C.*: Now, everybody—write any three-digit number. Reverse the digits and subtract. Now multiply by any number you wish. Cross out any digit except 0. Add the remaining digits. Now give me your results.

*1st P*: My result is 11.

*M.C.*: You crossed out a 7.

*1st P*: That's right! (This is continued down the line. The *M.C.* "guesses" the number crossed out by adding the digits of the number read to him, and subtracting from 9.)

*M.C.*: The next trick requires the use of paper. Will someone from the audience volunteer to assist me with this one?

(Two pupils hold a large sheet of paper, while the volunteer writes on it with crayon.)

*M.C.*: Write any three-digit number in which the first and last digits differ by more than one. Now reverse the digits and subtract. Reverse again and add. Show your answer to the audience. Now fold the paper several times and give it to me. (Removes blindfold.) The answer is on the paper. (Lights a match and burns the paper.) Now the answer is in the ashes! Now I shall get the answer from the ashes! (Picks up the ash, and rubs it on his arm. The answer, 1089, previously written in milk, shows up in black and is shown to

**CARD No. 1**

←

**CARD No. 2**

→

YES			
1	3	CUT OUT	
5	7		
9	11		
13	15		
CUT OUT		17	19
		21	23
		25	27
		29	31
ON			

**CARD No. 3**

←

**CARD No. 4**

→

YES			
4	5	CUT OUT	
6	7		
12	13		
14	15		
CUT OUT		20	21
		22	23
		28	29
		30	31
ON			

**CARD No. 5**

←

FRONT

→

BACK

YES				
16	17	9	4	2
18	19	1	2	0
20	21	3	5	6
22	23	7	8	-
CUT OUT		24	25	
		26	27	
		28	29	
		30	31	
ON				

*Directions for making the age-guessing cards:* Use cards large enough to be read from the audience. Copy these models.



the audience.) Here is the answer!

*M.C.:* One of the biggest mysteries in numbers is a woman's age. (Turns to girl) How old are you?

*Girl:* I won't tell. Try and find out!

*M.C.:* I will! Write your age on the board so the audience can see it and then erase it. (Girl does so.) Bring out the magic cards. (Cards are brought out. Directions for making the cards are appended to this text.) Is your age on this card? (This question is repeated with each card. Girl answers yes or no. Cards are placed against board with yes or no on top, depending on the girl's answer. After last card is put down, M.C. picks up whole set and turns it around to show audience the girl's age, visible through the window.) Here is your age!

*M.C.:* Thank you very much for helping me. Now if you'll just step off the stage, I have one more trick that I can do alone.

*All pupils:* No! We want to stay! Nothing doing! No sir! (General uproar.)

*M.C.:* Now there's no use shouting. You have to get off!

*Girl:* (Edges up to M.C. Seductively.) You don't want me to leave, do you?

*M.C.:* Yes, everybody. Well now, that is, on second thought, you can stay. But everybody else, off!

*All:* No sir! If she stays, we stay! We won't get off. Try and make us! etc. (All

crowd around M.C. menacingly.)

*M.C.:* All right! All right! Quiet! Let's do it the fair way. Everybody form a circle. (To girl) You stand here. We'll count around the circle, and every third person goes off. You begin. (They count off, 1-2-3, 1-2-3, etc., until only M.C. and the girl remain. Directions for arranging the circle are appended to this text.) (To audience) You see, if you know your numbers you can't lose! (To girl) Ready? Write a three-digit number whose first and last digits differ by more than one. Reverse and subtract. Now reverse and add. Multiply by one million. Subtract 965, 543, 282.

Under every 1 write O.

Under every 2 write G.

Under every 3 write E.

Under every 4 write H.

Under every 5 write T.

Under every 6 write N.

Under every 7 write I.

Under every 8 write J. Now read it backwards.

(Pupils backstage stick their heads out from behind blackboards).

*All:* (Shout in unison) JOIN THE G. O. (Curtain.)

*Directions for arranging the circle:* If the positions in the circle are numbered from 1 to 10, in the direction in which the counting takes place, let the M.C. take position 10, the girl position 4, and let the person in position 1 start the counting.

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