# THE HANDSHAKE PROBLEM

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A Skit in One Act

by

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## Cast of Characters

Narrator(s): 1–3 speakers, or more if you have a large group

Friends: 7 non-speaking parts, or adjust to fit your group

## Props

Each friend will need a sheet of paper with a number written on it big and bold enough to be read by the audience. The numbers needed are 0, 1, 2, 3, … up to one less than the number of friends. Each friend keeps his paper in a pocket until needed.

## Scene

School hallway.

## Time

The present.

# Act 1

NARRATOR 1

Seven friends meet each other in the hallway before class.

(FRIENDS come on stage and silently greet each other.)

NARRATOR 1

Being polite young ladies and gentlemen, they want to shake hands with each other, and they don't want to hurt anyone's feelings or leave anyone out.

(FRIENDS look at NARRATOR 1 with confused or irritated expressions. Then they shrug and begin to shake hands all around.)

NARRATOR 1

If each friend shakes the hand of every one of the other friends exactly once, how many handshakes will there be?

(NARRATOR 1 takes guesses from the audience, which will almost surely be much larger than the actual answer. For best results, avoid taking guesses from any audience members who look like they are doing mental arithmetic. Meanwhile, the FRIENDS pantomime counting each other, counting on their fingers, and generally looking puzzled.)

NARRATOR 2

In our math class, we learned a way to organize this problem so that we can find the answer.

(FRIENDS move to the side of the stage.)

NARRATOR 2

We start with small numbers and work our way up. If there is only one person, there can’t be any handshakes.

(FRIEND 0 comes back to center stage, tries to shake hands, shrugs, and then holds up their numbered paper. Each FRIEND will continue to hold their paper where it is visible for the rest of the skit.)

NARRATOR 2

If another friend comes along, there is one handshake.

(FRIEND 1 comes out, shakes hands with FRIEND 0, and holds up their numbered paper.)

NARRATOR 2

When the next friend comes along and shakes both their hands, that adds two more handshakes to the party. . .

(As NARRATOR 2 continues, each FRIEND in turn comes out and shakes the hands of everyone in center stage, then holds up their paper. NARRATOR 2 pauses as needed to allow this movement.)

NARRATOR 2

The next friend adds three handshakes to the total. . .
The next friend adds four more. . .
The next friend adds five. . .
And the last friend shakes all six of their hands.

(FRIENDS stand in a line in numerical order.)

NARRATOR 3

Now, how can we add up all those handshakes to find the total number? The easiest way to add a long list of numbers is to rearrange them into tens.

(FRIENDS rearrange themselves into groups as NARRATOR 3 describes the calculation.)

NARRATOR 3

We can see that 6 and 4 together are 10. . .
Then 2, 3, and 5 make another ten. That is 20 so far. . .
And 0 and 1 bring our total up to 21 handshakes in all.

(CURTAIN)

(END OF SKIT)