

# Master teacher makes arithmetic fun

By Margaret McLean

AURORA — A recent agenda of the York County board of education included a letter from the National Council of Teachers of Mathematics thanking the board for master teacher Joan Routledge's presentation at a conference. It was titled, Drill — the name of the game.

Who is Joan Routledge? What is a master teacher? And who uses "drill" these days?

A mother and grandmother, Joan Routledge has been a resident of King Township since 1946. Since 1969, she has been a master teacher of mathematics in York County schools.

After teaching in Muskoka and Toronto, Mrs. Routledge took a 12-year maternity leave and then began teaching in Richmond Hill in 1958. She taught at Beverley Acres, Pleasantville, McConaghy and Crosby senior public schools.

Stimulated by the mathematics her son was studying in high school and 27 years after she had had any formal training in mathematics, Mrs. Routledge enrolled in a correspondence course at Queen's University, persevered and by the summer of 1966 had attained her B.A. from Queens with a major in English and a minor in mathematics.

## Family co-operation

All this while teaching full time and raising three children. "Of course I couldn't have done it without the co-operation of all members of the family," she emphasized. She graduated just one year ahead of her son Doug.

In 1966 she was appointed supervisor of mathematics for the Richmond Hill Public School Board. With the approval of Richmond Hill's superintendent Gordon McIntyre (later to become associate director of York County board of education) she designed her program after the master teacher plan

which had been instituted in the seven-school York Central District High School system.

She continued to teach one class of mathematics each day, which teachers were invited to observe, and spent the balance of her time assisting other teachers by means of direct help, workshops and seminars. She was in great demand in the Home and School Association circuit, explaining the "new math" to parents.

"New math is what good teachers have been doing for years," she states flatly. "They know children get excited over patterns and relationships."

With the master teacher concept continued by the newly formed York County board of education in 1969, Mrs. Routledge continued in her same lively way. She teaches classes for 40 per cent of her time and spends 60 per cent helping other teachers or planning and conducting teacher workshops. This year she is teaching mathematics to kindergarten, Grade 1 and 2 children at Mt. Albert Public School in East Gwillimbury.

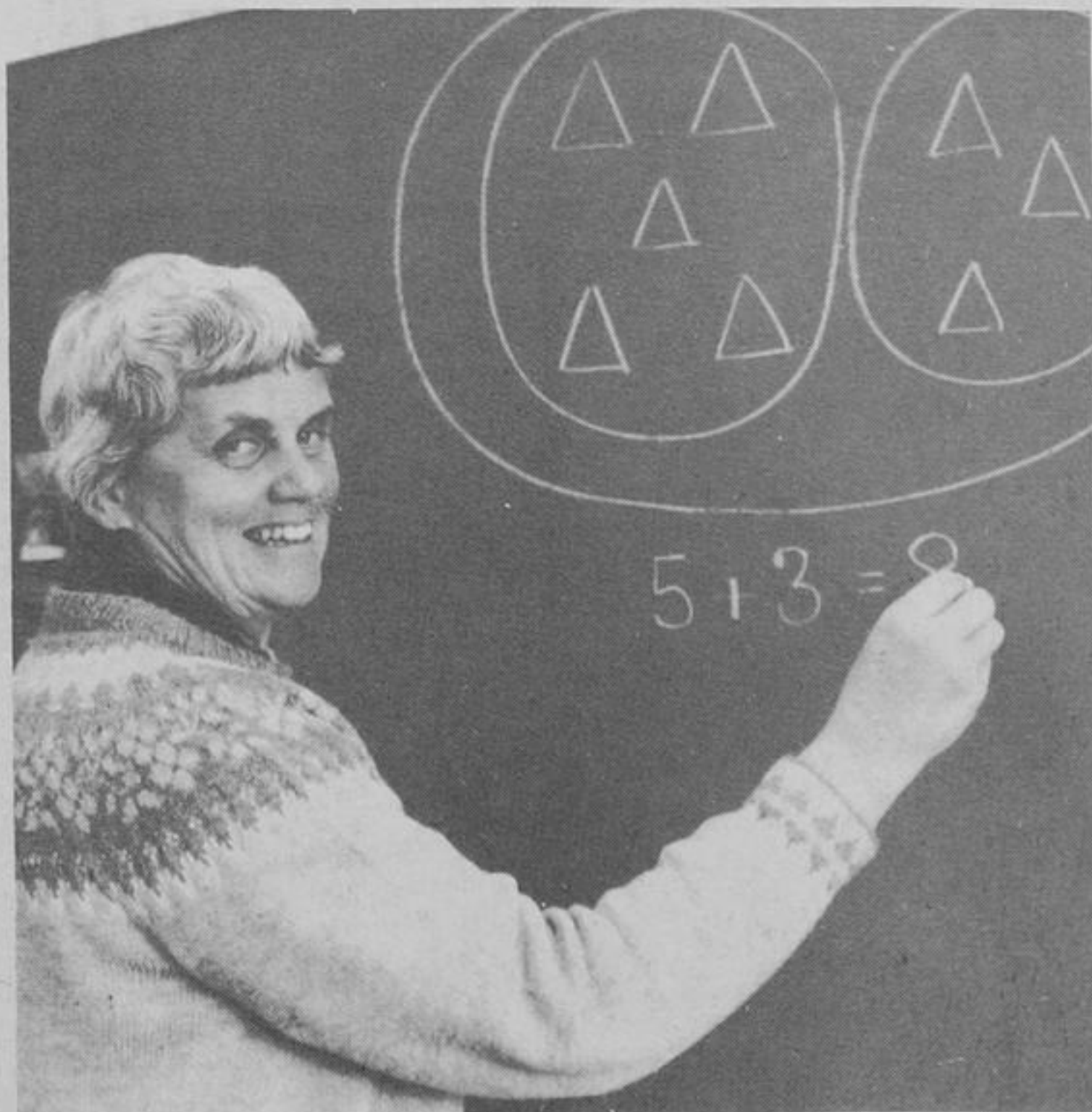
"What kind of math do you teach kindergartners?" was the natural query.

"Chiefly sorting and classifying," was the reply. It is her firm belief that before beginning "pushing numbers around" young children must understand the basic concepts; must have a full understanding of the meanings of the symbols before they are taught to use them.

## Sorting vegetables

She spends 20 minutes per day with the kindergarten class at Mt. Albert. One day she brought in a large paper bag full of vegetables from the Holland Marsh. The children sorted them — by size, by color, by feel, by likes or dislikes. "It was a conversational thing," she emphasized.

Another day she used a group of toy trucks, six large ones and 11 small ones. Because they took up more room, some



Master teacher Joan Routledge  
... former Richmond Hill math supervisor

children thought there were more large trucks. The problem was solved by pairing them, one large truck with one small one until there were six pairs — and five small trucks left over. One little girl was quite indignant. "I told you that at the beginning," she said. "Yes," Mrs. Routledge whispered to her. "You knew it and I knew it but we had to help the others to know it too."

While Mrs. Routledge is working with

the class, the regular teacher makes notes on the children's behavior, identifying those who show maturity in logical reasoning and the reverse.

"In grade 1 we become more sophisticated," Mrs. Routledge went on. "The children use paper and pencil to record four red, three blue, two green trucks. They see that five is greater than four and can distinguish that from larger and smaller."

Once the basic concepts have been established, then comes the drill. "Children must have the facts and processes at immediate recall. It must become completely mechanical."

But Mrs. Routledge doesn't believe it very helpful to have a class recite multiplication tables together or to have children write out multiplication tables. Instead she has acquired — or invented — many games for children to play. To play "Buzz," the teacher, or another child or a parent, merely calls off numbers and at every multiple of, say, seven if the child is learning the seven times table the child calls out "Buzz," at 14, 28, 32 etc.

"Multi-Snap" has become very popular with York County students. It uses an ordinary deck of cards with the face cards discarded, the 10 changed to a zero and the Ace to one. The cards are divided between two people and each lays down a card at the same time. Whoever calls out the product of the two cards wins them both.

"Some schools have tournaments and name a grand champion multi-snapper," Mrs. Routledge reports. She warns that when it is played at home, children often "wipe up the floor with their parents."

Parents can play a "Snap Out" contest with their children, Mrs. Routledge suggests. "Fire a multiplication question and make out a flash card for any that are slow being answered, so you can review the facts the child doesn't know. But make it a fun thing."

A favorite with both children and adults, and a game that can be played alone or with a whole class is "Krypto." The deck consists of cards numbered from one to 25, with a certain number of each. The first card drawn is the "Krypto" and five more are then drawn and laid out, or chalked up on the board. The players must then add, subtract, multiply or divide these five numbers to produce the Krypto, with the first one to

do so the winner.

Mrs. Routledge urges teachers — and parents — to find imaginative ways of doing drill. "In the past 10 years," she said, "some people have said drill is not needed. But the definition of 'drill' is repeated practice and you can't develop a skill without it."

Mrs. Routledge feels, however, that the concern about lack of "basics" is over-emphasized and stresses that good teachers have always been concerned to see that children learn the fundamentals in all areas.

"But if getting back to the basics in mathematics merely involves a parroting of number facts, this is far from sufficient," she insists. "Children need to understand the meaning of the number facts before they can use them to solve problems in every day life. Children can't progress on just memory work alone."

Mrs. Routledge reports she is "swamped with calls" from teachers. "We could use at least two more math master teachers. We desperately need another master teacher to concentrate on the intermediate division, Grades 7 to 10. Teachers need to do a lot of sitting down together."

Along with her demanding daily schedule, Mrs. Routledge is active in her profession outside York County. She is a past president of the Ontario Association for Mathematics Education and has been a member of the Ontario Education Association throughout her career.

She was recently named the Canadian representative to the National Council of Teachers of Mathematics, in spite of its name an international organization. Last summer she was invited to put on a display of Canadian material at the Third International Mathematics Congress in Karlsruhe, Germany. She went at her own expense and spent six days at the congress, meeting "math-people" from all over the world.

## The Liberal Section C Community news

Wednesday, November 17, 1976

# Disabled group face series of problems

By Denise Romberg

RICHMOND HILL — There's a group in York region badly in need of indoor gym facilities and a basketball coach. No figures are yet available on the group's size, but its organizers are hard at work trying to come up with some leads.

PROD (Promoting the Realization of Opportunities for the Disabled) in York region is trying to reach the disabled with the view to working as a group to get its members involved and help remove the stigmas.

John Weir, 25, hopes a sports and recreation program can get off the ground.

"I feel that we may be getting into something kind of frustrating," Weir says as the program searches for a place to train and a coach.

As the result of a fall that paralyzed him from the waist down, Weir has been confined to wheelchair for six years. Last spring he started getting himself in shape to compete in the Ontario Wheelchair Sports Association where he won a bronze medal for shot put.

"It kind of motivated me to keep busy and try and help people in the same situation," he explained.

## How many disabled?

PROD chairman Tiki Papas says that she's been trying since the group started in January to come up with some figures on its size. The mailing list now numbers 50 but "York Region is so big, it's a hard thing to tackle. Nobody has any real numbers for the disabled in the region."

PROD has identified transportation,

employment and education as the major problems facing them.

Miss Papas, 26, a Woodbridge resident, suffers from renal rickets, a rare bone disease that stunts growth. She has lived in York Region for four years and has had the experience of applying for a job here.

She says she tells the prospective employer, over the telephone, about her disability "just to pave the way for my arrival." But the fact is, she can't get past the telephone call.

## Employers afraid

"Employers are afraid to hire the disabled," she says. "They figure that if you're in a wheelchair you have a mental disability too."

However, she admits that the employment problem is a two way street. "The employers are sometimes afraid to hire, but the disabled are sometimes afraid to approach prospective employers."

Employment for the disabled is as also dependent upon transportation facilities to the place of employment and traffic flow or wheelchair accessibility upon arrival, she explains.

"If a building is too big or only has steps for access to the upper levels, then you just can't take a job there," Miss Papas explained.

Higher education for the disabled poses problems too. "Education is offered through the Vocational Rehabilitation Services, but in order to go to school you have to guarantee that you'll have a job when you're finished," she said.

"With the job market as it is, that's impossible, even for the non-disabled."

# Painter's specialty is weeds

By Larry Johnston

THORNHILL — There is an artist in Thornhill who does not have far to go to find a subject.

"Any ditch will do," says Taisia Paczkowski.

Her specialty is painting weeds with such vibrant color and perspective that they seem to come alive on paper, says Mary Gilbert, owner of the York Fine Art Gallery.

Her Indian pipe (that's the mushroom) for example, seems to have a personality all its own.

Taisia has developed her own watercolor technique, which involves using a wet brush on wet paper, says Mrs. Gilbert.

Taisia herself says that technique is not that important. What is "is to paint what you feel," she says.

She has been in Canada since 1952. She was born in Russia, lived later in Germany and studied art one year in England, which she says with modesty was "not much."

She prefers to be known by her first name in art circles and declines to talk about her past.

"I'll talk about my work and art but not about my background," she says with a shyness that is the opposite of her paintings.

She went back to Russia two years ago for a visit and saw all kinds of great art, she says.

It was much more interesting than what the Russians like to show the west, such as the art which appeared at the Toronto Art Gallery a few years ago. It was political, she feels.

The best Russian art, she says, was done just before the revolution.

Taisia has three critics in her life, her three sons, who are not afraid to say exactly what they think of her work, not that she necessarily follows their advice.

Art is a very personal thing, she says, and working with watercolors very exciting, because they are unpredictable. There are "some great disasters," and the feeling of accomplishment when a painting works after many hours of concentrated effort.

Her own work habits are irregular, she sometimes works 12 hours per day and she sometimes "doesn't touch it for weeks."

She has been painting since youth but started getting more serious about it nine years ago when she started exhibiting.

She has exhibited in major group shows in Canada and the United States and won top awards.

Her exhibition at the York Fine Art Gallery previews this Thursday, opens to the public Friday and continues to Sunday. The private gallery is located in the Snowball Village Boutiques, on Wellington Street near Dufferin in King Township.



(Photo by Hogg)

## Exhibit in King

Artist Taisia's mushrooms seem to have acquired a personality all their own. Russian-born Taisia Paczkowski has won awards in Canada and the

United States and lives at 34 Dove Lane, Thornhill. Her one-woman show opens this Friday at the York Fine Art Gallery in King Township.

# New dancing school is starting

Correspondent  
Millie Stewart  
773-4424

OAK RIDGES — A new dance school is being started at the Viking Club to teach ballroom dancing and the steps of the tango, samba and other Latin American dancing.

For more information, call 884-5072 in the evenings.

## Movies at library

The once-a-month movies at the library are so popular and the tickets go so quickly that I am announcing them a week early so everyone has fair warning.

The movies to be shown Nov. 27 at 2 p.m. will be Cold Pizza, The Incredible Cat Tale, Garage (Buster Keaton) and The Huntsman. Tickets are free, but they must be picked up before show time. For more information, call 773-5533.

## oak ridges lake wilcox

### Hockey bazaar-dance

If you are still looking for an unusual Christmas gift, maybe you will find it at the Oak Ridges and district hockey Christmas Bazaar to be held on Nov. 27 at Bond Lake Arena. There will be a tea table, demonstrations of crafts, raffles and decorations for sale.

That evening there will be a dance in the Lions Den at the arena sponsored by the hockey association.

Tickets are \$10 per couple and they are available at the door. There will be dancing to the music of disc-jockey, Dave Neilson.

### Seniors stay busy

Tonight (Nov. 17) at 8 p.m., ladies of

the Wheelhouse Club will be at home to the Oak Ridges-Lake Wilcox branch of the York Central Hospital Auxiliary. This is the time of the year when the auxiliary members make Christmas stockings for children who must spend Christmas in the hospital.

Give Millie Stewart at 773-4424 a call if you would like to come and you need a ride.

### Holly tea-bazaar

United Church Women of St. Paul's will be holding their Holly Tea and Bazaar this Saturday from 2 to 4 p.m. at the church. The highlight of the day will be the draw on the beautiful afgan. Tickets are available from any UCW member and they are also available at the bazaar. There will be a fish pond for the small fry, crafts for sale, baked goodies and more.

### Christmas cakes

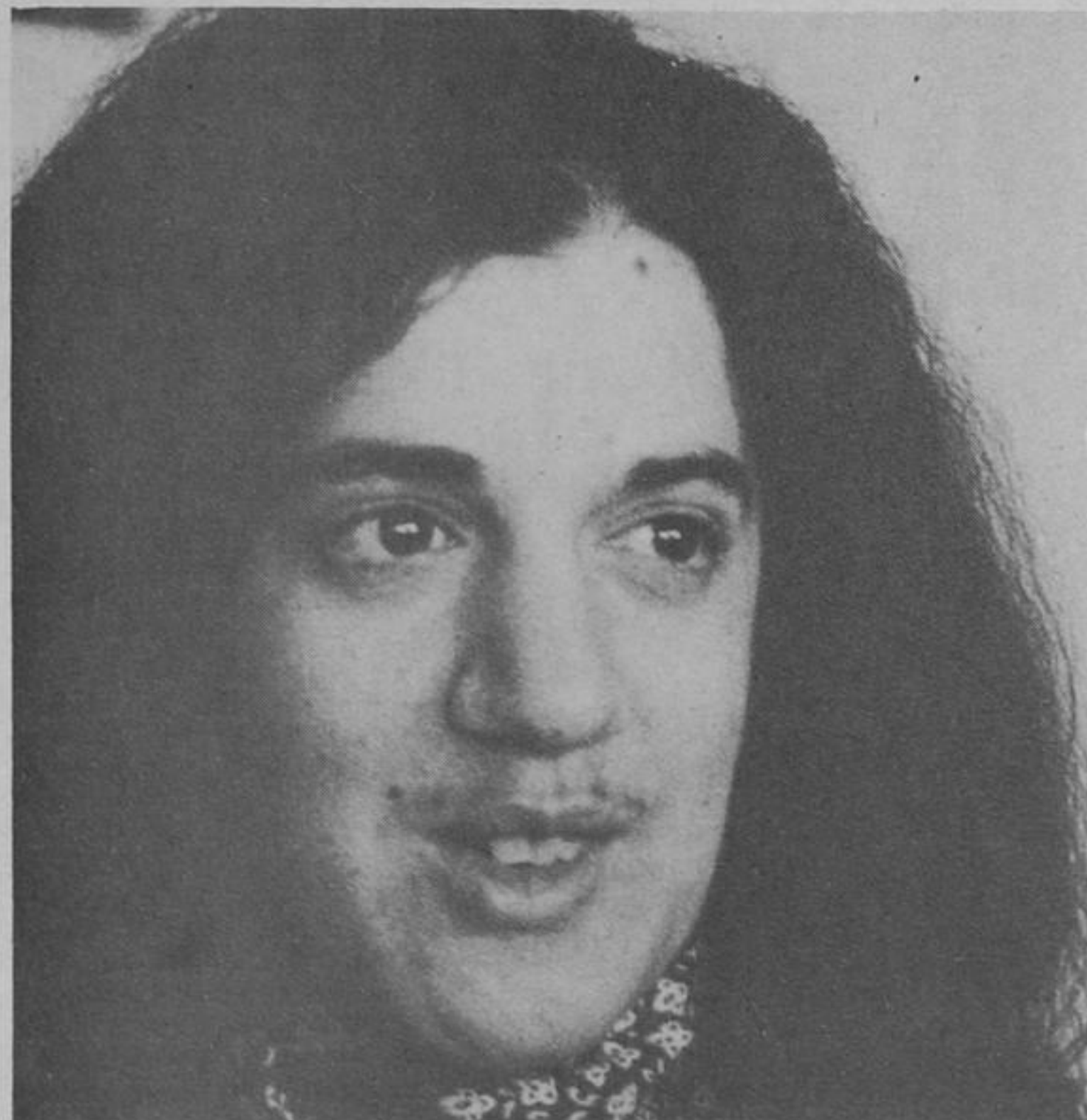
Bond Lake skating club has Christ-

mas cakes for sale. All children who would like to sell the cakes may contact Pat LaRiviere or Corrie Deary. The cakes are \$2.50 for the 28-ounce light fruit cake and \$3 for the two-pound dark cake.

All skating club members will be tested starting at 4:30 p.m. on Nov. 18. This applies also to children who normally have lessons on Tuesdays as well as those who have lessons on Thursdays. If your child cannot be there on Thursday, please call Mrs. Deary or Mrs. Farrell at 773-4670.

### St. John's Anglican

This Friday the St. John's couple's club will have a progressive dinner starting with the appetizer course from 7 p.m. to 8:15 at the home of Keith and Glenys Latham. The main course will be from 8 to 9:45 at the rectory and dessert will be from 9:30 to 10:30 at the home of Murray and Bev Jackson.



Tiki Papas

... it's tough looking for work