

# Functions Lucky Lottery

1. Students answer 20 function problems.
2. If answered correctly, part of the ticket will be scratched off.
3. If a student answers incorrectly, the answer box will turn red.
4. Students win if 3 of the same images appear on the ticket. The odds are 1 of 4.

The screenshot shows a digital interface for a 'Functions Lucky Lottery'. At the top, it says 'Functions Lucky Lottery' with a star icon and a menu bar: 'File Edit View Insert Format Data Tools Extensions Help'. Below the menu, it says 'Last edit was 3 minutes ago'. The main content area is divided into several sections:

- QUESTIONS:** A dropdown menu labeled 'CHOOSE YOUR QUESTION HERE' is set to '5. Evaluate the function.' The question text is  $f(x) = 4x^2 - 9$  and 'Find  $f(-2)$ '. The text is enclosed in a red border.
- ANSWERS:** Two columns of 10 empty boxes each, numbered 1 through 20.
- DIRECTIONS:** A box with the text: 'Answer the questions below in any order. If you are correct, part of the scratch-off ticket will be revealed. If you are incorrect, your answer will turn red. Complete all 20 questions and match 3 like symbols to win a prize. Prizes may vary! See your teacher for details. Will you win the LITTLE LUCKY LOTTERY?'
- YOUR SCRATCH-OFF TICKET:** A graphic of a 'LITTLE LUCKY LOTTERY' ticket. It features a grid of 12 red gift icons. Text on the ticket says: 'Reveal 3 of the same symbol to WIN! Reveal 3 WIN INSTANTLY!'. Below the grid, it says '3 TOP PRIZES' and 'SCRATCH TO CASH'. At the bottom, it says 'PRIZES MAY VARY. SEE YOUR TEACHER FOR DETAILS. MUST COMPLETE ALL QUESTIONS TO CASH PRIZE.'

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The problems are about evaluating functions. I created them with the intention to help students think flexibly about functions. Check out some of the problems:

2. What value of  $x$  makes this true?

$x = ?$

$$f(x) = \frac{x}{5}$$

$f(x) = 2$

5. Evaluate the function.

$$f(x) = 4(x^2 - 9)$$

Find  $f(-2)$ .

15. What number goes in the blank to make this function work?

$x = -3$

$$f(x) = 2x^2 + \underline{\hspace{2cm}}$$

$f(x) = 24$

13. Based on this function, what is  $f(-2) + f(0)$ ?

$$f(x) = x^2 + 2x - 3$$

14. Evaluate the function.

If  $f(x) = -12$ , what is  $x$ ?

$$f(x) = -3(6x - 2)$$