## Evaluating Functions War

Evaluate functions from a table | Evaluate functions from a graph | Evaluate functions from an equation

## **Game Preparation Instructions**

- 1. Decide how many students will be in each group.
- 2. Print one copy of page 2 (evaluation cards) for each student in each group. Printing these on different colors of paper will make it easier for students to sort out which cards belong to who at the beginning of the game.
- 3. Print one copy of pages 3-5 (function cards) for each group.
- 4. Laminate (if possible) and cut apart.

## **Game Play Instructions**

- 1. Shuffle the larger function cards (pages 3-5) and place face down in the center of the playing area.
- 2. Distribute the smaller evaluation cards to each player. If they are printed on different colors, each player should get 9 cards in a matching color. If cards are not color-coded, distribute 9 cards to each player. Each player should shuffle their deck several times.
- 3. Turn over the top function card and place it in the center so all players can see.
- 4. Each player turns over their valuation card and evaluates the function at that value.
- 5. The player with the highest value wins each of the other players' evaluation cards. Cards that are won go on the bottom of the stack.
- 6. Continue play by turning over a new function card in the center of the playing area and having each player turn over a new evaluation card.
- 7. If two or more players have identical evaluation cards that evaluate to the same highest value, each of those players should turn over a new evaluation card to act as a tie breaker between those players. If two or more players have non-identical evaluation cards that evaluate to the same highest value, a new function card should be turned over to act as a tie breaker between those players.
- 8. Play ends as soon as one player runs out of cards. The players who still have cards are considered the winners of the game. Another round may be played if time allows. (This rule keeps all students engaged throughout the game.)

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f(x) = 2x - 4	$f(x) = x^2 - 5$	f(x) = -3 x - 1
$f(x) = -2x^3 + 4$	f(x) =  x	f(x) = -x + 2

		- I			, [	]		
x	f(x)		x	f(x)			X	f(x)
-4	-5		-4	-11			-4	10
-3	-3		-3	-7			-3	5
-2	-1		-2	-3			-2	0
-1	1		-1	1			-1	-5
0	3		0	5			0	-10
1	5		1	9			1	-15
2	7		2	13			2	-20
3	9		3	17			3	-25
4	11		4	21			4	-30
		_						
x	f(x)	]	x	f(x)			x	f(x)
-4	6		-4	-4			-4	16
-3	3		-3	-3			-3	9
-2	0		-2	-2			-2	4
-1	-3		-1	-1			-1	1
0	-6		0	0			0	0
1	-9		1	-1			1	1
2	-12		2	-2			2	4
3	-15		3	-3			3	9
	-18	1	4	-4	1		4	16