

Note: This game treats subtraction as addition of the opposite: $a - b = a + -b$.

The Commutative Property

The **commutative property of addition** ($a + b = b + a$) says that when two numbers are added, changing the order of the addends does not change the sum; for example, $3/4 - 1/2 = -1/2 + 3/4$.

Game Description and Materials

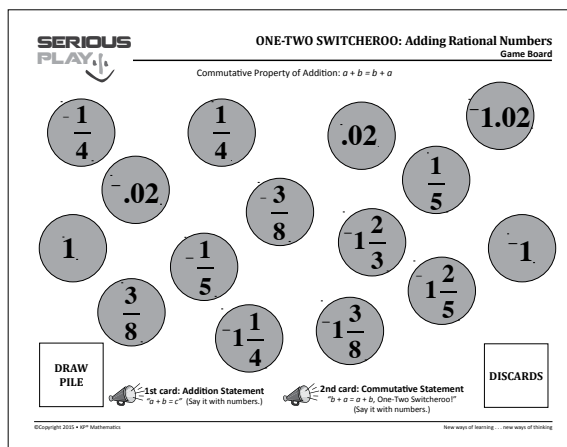
One-Two Switcheroo is a game for two players that uses the commutative property of addition to give students mental math practice adding positive and negative fractions. Players match commutative pairs of cards (Switcheroo Pairs) to a common sum.

Game materials include a Game Board and a set of cards. Each player needs up to ten tokens to use as markers (not included).


The **object of the game** is to collect more Switcheroo Pairs than the other player.

Game Board

The Game Board has 15 Sum Spots (for Switcheroo Pairs) and places for the draw pile and discards.



Cards

- There are 30 **Game Cards**, 15 “matching” cards that each make a Switcheroo Pair.
- There are five **Chance Cards**. Chance Cards are saved and used as needed. Playing a Chance Card constitutes a turn.
 - ◆ Two Chance Cards say, “Discard and pick 2.” Players use this card to discard an unwanted card from their hand and exchange it for the top card from the draw pile. Then, they discard the Chance Card and pick the top card from the draw pile to replace it.
 - ◆ Three Chance Cards say, “Take a card .

$$-\frac{1}{2} + \frac{3}{4}$$

$$\frac{3}{4} - \frac{1}{2}$$

CHANCE
Discard
and pick 2

CHANCE
Take a card


Getting Ready to Play

The dealer shuffles the cards, deals five cards to each player, and places the remaining cards face down to form a draw pile. Throughout the game, players' cards remain face up so both players can see them. Players replace each card they use by drawing the top card from the draw pile. They should have five cards at the end of each turn.

Let's Play!

1. Players decide who takes the first turn. Player 1 places a card from his hand on a Sum Spot, saying aloud the correct addition statement:

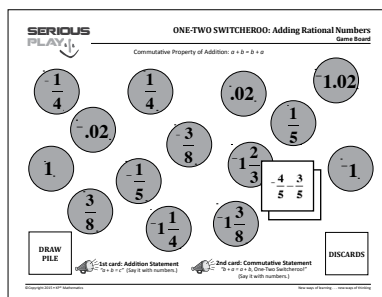
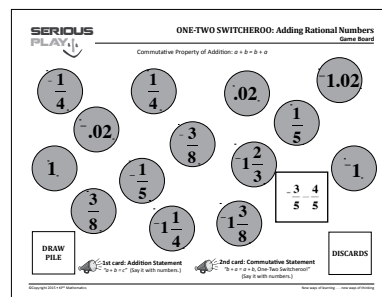
$$-\frac{3}{5} - \frac{4}{5} = -1\frac{2}{5}$$

2. Player 2 takes the next turn, following the same procedure as Player 1.

3. When a player has a card that will make a Switcheroo Pair, he places that card on the Game Board on top of the other card of the pair. Then, he places his marker on the pair of cards and says aloud the commutative statement: " $-\frac{4}{5} - \frac{3}{5} = -\frac{3}{5} - \frac{4}{5}$, One-Two Switcheroo."

4. Players alternate turns. The game is over when all the cards have been played.

5. The winner is the player with more Switcheroo Pairs.



Commutative Property of Addition: $a + b = b + a$

$-\frac{1}{4}$

$\frac{1}{4}$

$.02$

-1.02

$-.02$

$-\frac{3}{8}$

$\frac{1}{5}$

1

$-\frac{1}{5}$

$-1\frac{2}{3}$

-1

$\frac{3}{8}$

$-1\frac{2}{5}$

$-1\frac{1}{4}$

$-1\frac{3}{8}$

**DRAW
PILE**

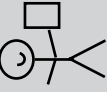
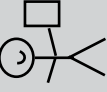
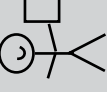

DISCARDS



1st card: Addition Statement
" $a + b = c$ " (Say it with numbers.)



2nd card: Commutative Statement
" $b + a = a + b$, One-Two Switcheroo!"
(Say it with numbers.)

$\frac{1}{2} - \frac{3}{4}$	$-3\frac{1}{4} + \frac{1}{2}$	$\frac{3}{4} - \frac{1}{2}$	$-1\frac{3}{2} + \frac{3}{4}$	$\frac{1}{3} - 1\frac{1}{3}$	$-1\frac{1}{3} + \frac{1}{3}$
$1\frac{1}{3} - \frac{1}{3}$	$-1\frac{1}{3} + 1\frac{1}{3}$	$\frac{3}{5} - \frac{4}{5}$	$-\frac{4}{5} + \frac{3}{5}$	$-\frac{3}{5} - \frac{4}{5}$	$-\frac{4}{5} - \frac{3}{5}$
$\frac{4}{5} - \frac{3}{5}$	$-\frac{3}{5} + \frac{4}{5}$	$-\frac{3}{4} - \frac{1}{2}$	$-\frac{1}{2} - \frac{3}{4}$	$-\frac{1}{3} - 1\frac{1}{3}$	$-1\frac{1}{3} - \frac{1}{3}$
$.52 - \frac{1}{2}$	$-1\frac{1}{2} + .52$	$-.52 - \frac{1}{2}$	$-\frac{1}{2} - .52$	$\frac{1}{2} - .52$	$-.52 + \frac{1}{2}$
$\frac{7}{8} - \frac{1}{2}$	$-1\frac{7}{2} + \frac{7}{8}$	$\frac{1}{2} - \frac{7}{8}$	$-\frac{7}{8} + \frac{1}{2}$	$-\frac{7}{8} - \frac{1}{2}$	$-\frac{1}{2} - \frac{7}{8}$
CHANCE Discard and pick 2	CHANCE Discard and pick 2	CHANCE Take a card 	CHANCE Take a card 	CHANCE Take a card 	CHANCE Take a card 

Commutative Property of Addition: $a + b = b + a$

Game board with 15 circular cards and two rectangular boxes. Each card contains a number and two equivalent addition statements in boxes.

- Card 1:** $\frac{1}{4}$. Statements: $\frac{1}{2} - \frac{3}{4}$ and $\frac{3}{4} + \frac{1}{2}$
- Card 2:** $\frac{1}{4}$. Statements: $\frac{3}{4} - \frac{1}{2}$ and $\frac{1}{2} + \frac{3}{4}$
- Card 3:** $.02$. Statements: $.52 - \frac{1}{2}$ and $\frac{1}{2} + .52$
- Card 4:** 1.02 . Statements: $\frac{1}{2} - .52$ and $.52 - \frac{1}{2}$
- Card 5:** $.02$. Statements: $\frac{1}{2} - .52$ and $.52 + \frac{1}{2}$
- Card 6:** $\frac{1}{5}$. Statements: $\frac{4}{5} - \frac{3}{5}$ and $\frac{3}{5} + \frac{4}{5}$
- Card 7:** $\frac{3}{8}$. Statements: $\frac{1}{2} - \frac{7}{8}$ and $\frac{7}{8} + \frac{1}{2}$
- Card 8:** $\frac{1}{3}$. Statements: $\frac{1}{3} - \frac{1}{3}$ and $-\frac{1}{3} + \frac{1}{3}$
- Card 9:** $\frac{1}{5}$. Statements: $\frac{3}{5} - \frac{4}{5}$ and $-\frac{4}{5} + \frac{3}{5}$
- Card 10:** $1\frac{2}{3}$. Statements: $-\frac{1}{3} - \frac{1}{3}$ and $-\frac{1}{3} + \frac{1}{3}$
- Card 11:** 1 . Statements: $\frac{1}{3} - \frac{1}{3}$ and $-\frac{1}{3} + \frac{1}{3}$
- Card 12:** $\frac{3}{5}$. Statements: $\frac{7}{8} - \frac{1}{2}$ and $\frac{1}{2} + \frac{7}{8}$
- Card 13:** $1\frac{2}{5}$. Statements: $\frac{3}{5} - \frac{4}{5}$ and $-\frac{4}{5} - \frac{3}{5}$
- Card 14:** $\frac{1}{4}$. Statements: $-\frac{1}{2} - \frac{3}{4}$ and $-\frac{3}{4} + \frac{1}{2}$
- Card 15:** $\frac{3}{8}$. Statements: $-\frac{7}{8} - \frac{1}{2}$ and $-\frac{1}{2} - \frac{7}{8}$

DRAW PILE (bottom left) and **DISCARDS** (bottom right).

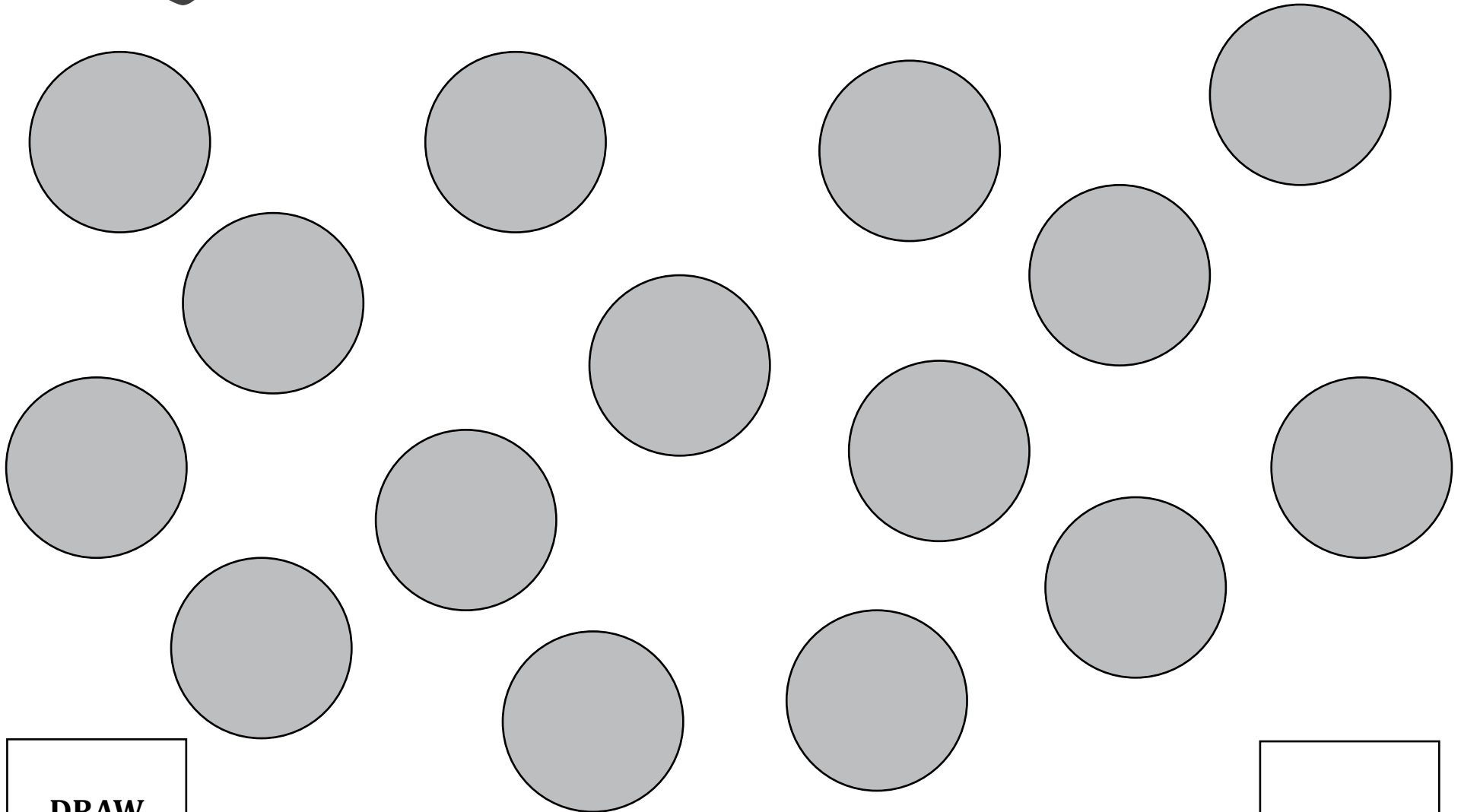


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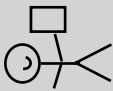
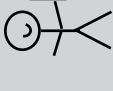
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