

TMC15 MathGames Day 2&3

<http://bit.ly/TMC15games2>

James Cleveland, @jacehan, [Roots of the Equation](#)

John Golden, @mathhombre, [Math Hombre](#)

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Links

[TMC wiki page](#) for games. Includes some math game resources, links to Day 1 games.

Curriculum Spreadsheet: goo.gl/NuSS82

[Rules Sheet Template](#) (from The Game Crafter)

[Games Designers Play](#)

Participants:

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Cindy @zummy21

New games growing

Statistics:

[James' blogpost](#) (includes full rules)

goals: increase students facility in finding mean, median and mode, and give them fluency in gauging the effect change in data has on those measures.

play: With playing cards, each player/team is dealt a measures hand of four cards and a data hand of 5 cards. An initial set of 6 data points is also dealt. Players take turns playing cards from their hands to replace data points to try to make mean, median or mode match one of their goals, then plays that goal card. Repeat until one team has made each of the three. A player may take their turn to swap a data card for a goal card.

→ Deal 9 fraction cards face up.

→ On each turn, a player selects 2 cards which match a sum or difference on the game board.

→ Player places their colored chip on the corresponding square + replaces the cards in the "draw pile".

→ Play continues until one player has 4 of their colored chips in a row horizontally, vertically, or diagonally.

Questions....

* fraction cards (range, repeats?)

* choices for squares on game boards

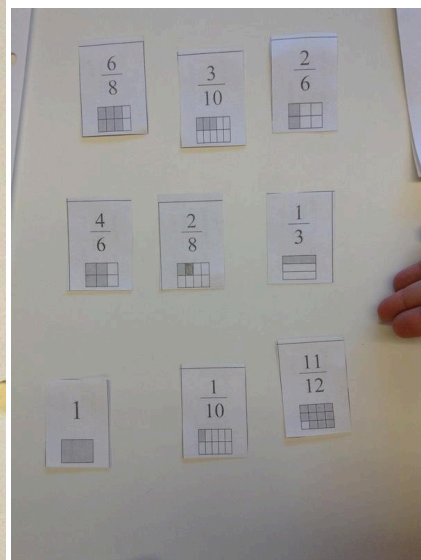
Fraction Addition/Subtraction:

goals: estimate and compute precisely sum and difference of fractions.

play: gameboard with 36 categories, such as $\text{sum} = \frac{1}{2}$, or $\frac{1}{2} \leq \text{difference} \leq 1$. Fraction cards dealt in a 9x9 grid. Players take two fraction cards and claim a space they satisfy by their sum or difference. Replace those cards. First team to cover 4 in a row wins.

SUM $= 1$	SUM < 1	DIFF < 1	SUM > 1	DIFF $> \frac{3}{4}$	SUM $= \frac{1}{2}$
DIFF < 1	SUM > 1	SUM $\frac{1}{2} \leq s \leq 2$	DIFF $\frac{3}{4} \leq d \leq 1$	DIFF $\frac{1}{2} \leq d \leq 1$	DIFF $\frac{1}{2} \leq d \leq \frac{3}{4}$
DIFF $= 0$	DIFF $\frac{1}{2} \leq d \leq \frac{3}{4}$	SUM $= 1$	SUM $1 \leq d \leq \frac{1}{2}$	DIFF $0 \leq d \leq \frac{1}{2}$	SUM $\frac{1}{2} \leq s \leq 1$
SUM < 1	SUM $\frac{1}{2} \leq s \leq 2$	DIFF $= 0$	SUM $= \frac{1}{2}$	SUM $\frac{1}{2} \leq s \leq \frac{3}{4}$	SUM $= 1$
SUM $1 \leq s \leq \frac{1}{2}$	SUM $= 1$	DIFF < 1	SUM $\frac{3}{4} \leq s \leq \frac{1}{2}$	SUM $\frac{3}{4} \leq s \leq 1$	SUM $\frac{1}{4} \leq s \leq \frac{1}{2}$
SUM > 1	DIFF $\frac{1}{2} \leq d \leq \frac{1}{2}$	SUM $1 \leq s \leq \frac{1}{2}$	SUM > 1	SUM $\frac{1}{2} \leq s \leq 2$	DIFF $\frac{1}{4} \leq d \leq \frac{1}{2}$

([Fraction cards](#) in my post on fraction comparison game)



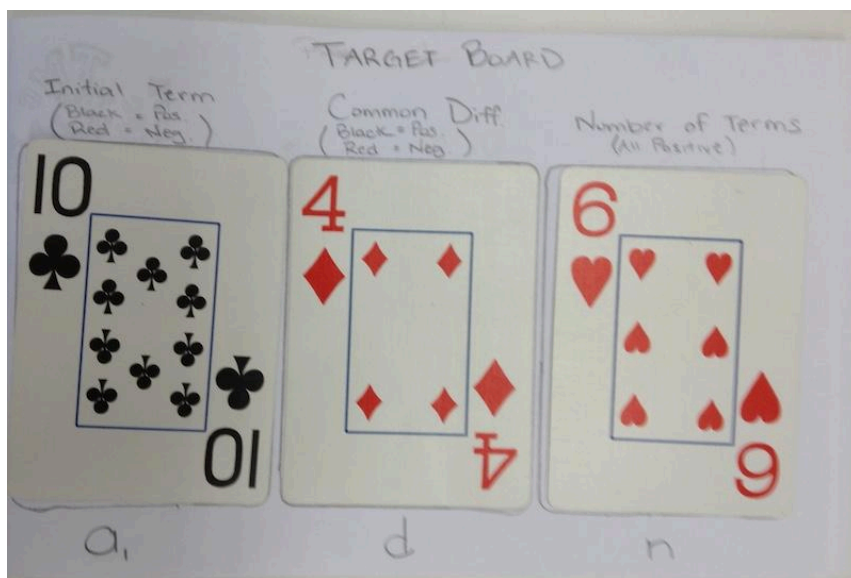
Arithmetic Sequences:

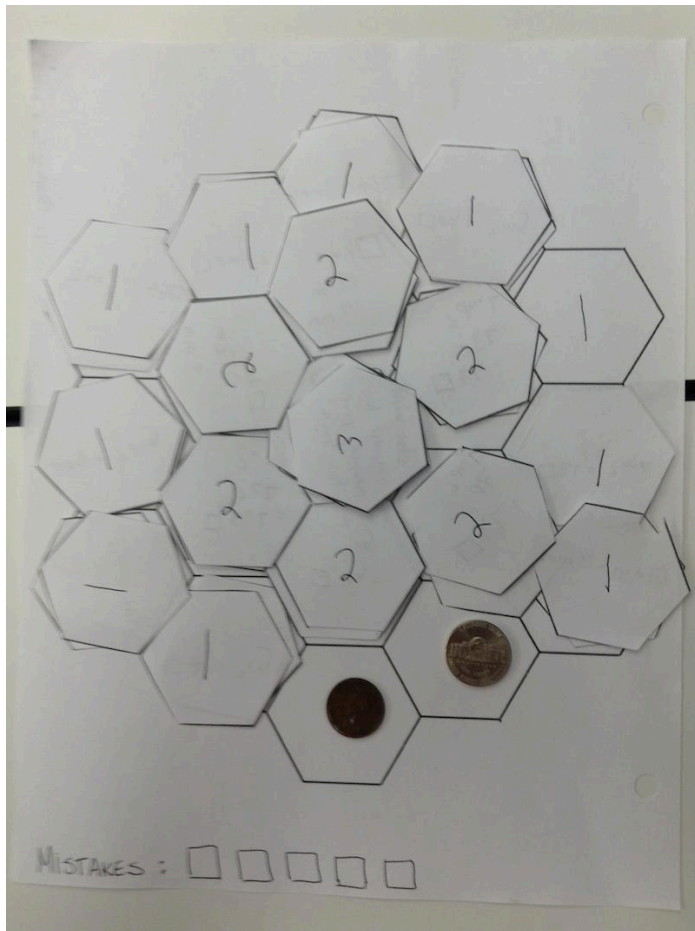
[Full Rules](#) by Rich and Dave.

goals: understanding of arithmetic sequences, ability to figure out missing info amongst starting value, difference, term number and nth term value.

play: With playing cards, deal a starting value, common difference, and number of terms. All teams agree on

[GeoGebra version](#)





Unit conversion:

[Full Rules](#) from Jan.

goals: convert amongst metric measures with different prefixes.

play: a gameboard with three levels of questions, goal is to get to the highest level. 1st level requires answering 1 question to claim a space, 2nd level 2, 3rd level 3. Meet the <TBD> conditions to go from one level to the next.

