

# box cars and one-eyed jacks®

## Radical Math Alignment Document©

# Common Core State Standards

The correlation of the specific Common Core State Standards for Math with the games in Radical Math, published by Box Cars And One-Eyed Jacks Inc., was compiled by Jennie Winters, Math Science Coordinator, Lake County Regional Office of Education (IL).

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<b>Radical Math Game</b>	<b>Page</b>	<b>Concept</b>	<b>CCSS</b>	<b>Equipment</b>
Do Your Decimals	17	Adding whole numbers and decimals, place value	5.NBT.7	Cards king -9 (king=0, ace=1), paper pencil
Operation Decimal	18	Multiplying whole numbers and decimals	5.NBT.7	Cards ace -10 (ace=1), one ten-sided (0-9) die, paper pencil
Decimal Dance	19	Reading decimals	5.NBT.3	Regular dice, Cards ace -9 (ace=1) in one pile, Ace-6 (Ace=1) in another, counters
What's Your Number?	20	Place value to 100,000,000, probability	4.NBT.2	One 10-sided (0-9) die, paper, pencil
Expander	23	Expanding numbers, adding to 100,000	4.NBT.2	One 20-sided (1-20) die, pencil, paper
Dicey Decimals	25	Recognizing place value from 1000,000 to .000,001	5.NBT.3	Cards ace -9 (ace=1) regular dice, paper, pencil
Roll On..Decimals	26	Decimal place value, adding decimals, probability, reasoning	5.NBT.3 5.NBT.7	Two 10-sided (0-9) dice, gameboard
Deci-Deca	28	Mental math, multiplying decimals and whole numbers	5.NBT.7	Cards king-9 (king=0, ace=1), calculators, gameboards: A, B or C
A Target Round	29	Comparing/building numbers to 9,090, rounding to nearest thousands	4.NBT.2 4.NBT.3	Cards king-9 (king=0, ace=1), 2 or 3 decadic, gameboard, paper, pencil
In Trouble Doubles	33	Adding doubles, subtracting with regrouping	2.NBT.5	Two 30-sided (1-30) dice, bingo chips or other counters
Addin' Snappin'	34	Addition of 2 addends w/regrouping	2.NBT.5	One 30-sided (1-30) die per player, bingo chips or other counters
Snappy Integers	35	Adding positive/negative integers	7.NS.1	One different coloured 30-sided (1-30) die per player, bingo chips or other counters, paper, pencil
Integer Addition War	36	Adding positive/negative integers	7.NS.1	Cards ace-king (ace=1, jack=11, queen=12, king=0), assign black cards as positive and red cards as negative
To Sum It Up/What's the Difference?	37	Addition/subtraction with regrouping of multi-digit numbers	4.NBT.4 4.NBT.5 4.NBT.6	One 10-sided (0-9) die, gameboard, paper, pencil
Integer Addition Snap	38	Adding positive/negative integers	7.NS.1	Cards ace-king (ace=1, jack=11, queen=12, king=0), assign black cards as positive and red cards as negative
Integer Subtraction War	39	Subtracting positive/negative integers	7.NS.1	Cards ace-king (ace=1, jack=11, queen=12, king=0), assign black cards as positive and red cards as negative

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Get Back To Zero!	40	Adding/subtracting with positive/negative numbers, plotting integers on a number line, problem solving	7.NS.1	2 decadice of different colours, one colour for negative, one colour for positive, 1 regular die, 1 bingo chip per player, gameboard
Multiplication Snap	42	Immediate recall of multiplication facts	3.OA.7	Cards ace-king (ace=1, jack=11, queen=12, king=0)
Three For Me	43	Multiplying to 144	3.OA.7	2 twelve-sided (1-12) dice, gameboard, bingo chips, two colours
Multiplication Scramble	45	Multiplication facts to 144, probability	3.OA.7	2 twelve-sided (1-12) dice or cards ace-king (ace=1, jack=11, queen=12, king=0), gameboard
Productive Pondering	47	Multiplying 2-digit numbers, estimation, mental math	4.NBT.5	2 thirty-sided (1-30) dice, paper, pencil
Football Factor	48	Multiplying 10's and 1's, multiple addend addition, probability	3.NBT.3	1 decadie, gameboard, pencil
Red Racers Challenger	52	Multiplying by multiples of 10's, probability	4.NBT.5	2 decadice per player, 1 gameboard per player, pencil
Roll Of The Millennium	54	Multiplying tens, hundreds, rounding, multiple addend addition, subtraction, probability	4.NBT.5 4.NBT.3	2 decadice, paper, pencil
Multiplication Match Up	55	Multiplying 2-digit numbers	4.NBT.5	2 thirty-sided (1-30) dice per player, bingo chips, calculators, paper, pencil
Integer Multiplication War	56	Multiplying positive/negative integers	7.NS.2	Cards ace-king (ace=1, jack=11, queen=12, king=0), assign black cards as positive and red cards as negative
Integer Multiplication Snap	57	Multiplying positive/negative integers	7.NS.2	Cards ace-king (ace=1, jack=11, queen=12, king=0), assign black cards as positive and red cards as negative
Knocking Integers	58	Multiplication with integers	7.NS.2	Cards ace-king (ace=1, jack=11, queen=12, king=0), paper, pencil-
All That Remains	59	Dividing	5.NBT.6	3 thirty-sided (1-30) dice calculator, paper, pencil
Division Decision	60	Division with remainders	5.NBT.6	3 30-sided (1-30) dice, paper, pencil, hundred board, markers

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Math Football	61	Multiplication of integers, multiplication, addition of integers, algebra	7.NS.2 7.NS.1	1 marker (football), gameboards, bingo chips (used for downs), 1 thirty-sided (1-30) die, 1 ten-sided (0-9) die, 1 twelve-sided (1-12) die
Decade Division	64	Dividing 2-digit numbers into 3 and 4-digit numbers, division with zeros, front end estimation	5.NBT.6	1 decadie, 1 thirty-sided (1-30) die, pencil, 1 gameboard per player, scrap paper, calculator
Operations Mixer	69	Problem solving, order of operations	5.OA.1 5.OA.2 3.OA.8	Cards ace-king (ace=1, jack=11, queen=12, king=0), paper, pencil
Mixed Up Tic Tac Toe	70	Problem solving, order of operations	5.OA.1 5.OA.2 3.OA.8	3 thirty-sided (1-30) dice, 30 bingo chips per player, own colour hundred board
Multi Operation Blackout	72	Order of operations, exponents, square roots, problem solving	5.OA.1 5.OA.2 3.OA.8 6.EE.1	2 ten-sided (0-9) dice and one 12-sided (1-12) die, two hundred boards, one per team, markers
Sweet 16	74	Order of operations, problem solving	5.OA.1 5.OA.2 3.OA.8	One 30-sided (1-30) die, cards - ace-king (ace=1, jack=11, queen=12, king=0)
Combo Five Challenger	76	Order of operations, exponents, square roots	5.OA.1 5.OA.2 3.OA.8 6.EE.1	One 30-sided (1-30) die, cards - ace-king (ace=1, jack=11, queen=12, king=0), paper, pencil
Combo Snap	78	Order of operations (+, -, x, ÷), problem solving	5.OA.1 5.OA.2 3.OA.8	Cards - ace-king (ace=1, jack=11, queen=12, king=0), one decadie
Super Star Traveler	79	Order of operations, exponents, square roots, problem solving	5.OA.1 5.OA.2 3.OA.8	Cards - ace-king + joker (ace=1, jack=11, queen=12, king=0), two 10-sided (0-9) dice
Got It/Closest To!	81	Mixed operations (+, -, x, ÷), order of operations, exponents	5.OA.1 5.OA.2 3.OA.8 6.EE.1	1 decadie, two 10-sided (0-9) dice, 2 regular dice, gameboard, pencil
Commit And Capture	83	Evaluating equations, order of operations	5.OA.1 5.OA.2 3.OA.8 6.EE.1	Cards - ace-king (ace=1, jack=11, queen=12, king=0), gameboard, pencil, calculator
Balancing Act	85	Order of operations, creating a balanced equation	5.OA.1 5.OA.2 3.OA.8 6.EE.1 6.EE.4	1 thirty-sided (1-30) die, paper, pencil

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Exponent War	89	Multiplication (exponents), with positive/negative integers	6.EE.1	Cards Ace -5 (Ace =1) or Ace -9, (Ace=1) for advanced players
Power To Ya!	90	Multiplication (exponents), with positive/negative integers	6.EE.1	Cards Ace -5 (Ace =1) or Ace -9, (Ace=1) for advanced players
Expression War	91	Substitution into an algebraic expression, order of operations, exponent laws	3.OA.8 5.OA.1 6.EE.1	Two 10-sided (0-9) dice, calculator, 1 regular die, paper, pencil
Simply Radical	92	Simplifying radicals, factoring	8.NS.2	Two 20-sided (1-20) dice, calculators, paper, pencil
Be Rational!	93	Rationalizing denominators of radical expressions and simplifying	8.NS.2	Cards - ace-king (ace=1, jack=11, queen=12, king=0), paper, pencil
Radical roots	97	Finding square roots of whole numbers, problem solving	8.EE.2	Cards King -9 (King=0, Ace=1), 1 calculator per player, paper, pencil
Poly Want A Number!	99	Adding binomial polynomials, recognition of polynomials, combining like terms to simplify expressions, substitution and order of operations	A- APR.1	Cards - ace-king (ace=1, jack=11, queen=12, king=0), one 12-sided (1-12) die, one regular die, paper, pencil
Poly Subtraction War	101	Subtracting polynomials, recognition of polynomials, combining like terms to simplify expressions, substitution and order of operations	A- APR.1	Cards - ace-king (ace=1, jack=11, queen=12, king=0), one 12-sided (1-12) die, one regular die, paper, pencil
Binomial Cross Overs	103	Adding/subtracting polynomials, recognition of polynomials	A- APR.1	One 12-sided (1-12) die per player, one gameboard per player, paper, pencil
Snappy Binomials	104	Factoring binomials	A- APR.1 A- APR.2	Cards - ace-king (ace=1, jack=11, queen=12, king=0), paper, pencil
Don't Be Foiled!	106	Multiplying binomial polynomials, substitution, evaluation and order of operations	A- APR.1	1 twelve-sided (1-12) die per player, paper, pencil
Bouncy Binomials	108	Multiplying binomials, recognition of polynomials, substitution, order of operations	A- APR.1	Cards - ace-king (ace=1, jack=11, queen=12, king=0), one regular die, paper, pencil
Predicting The Facts With Polly	110	Predicting, factoring quadratic polynomials	A-REI.4	One 20-sided (11-20) die, paper, pencil

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Polys and Probability	112	Probability, recognizing/applying the terms: coefficient, term, degree, monomial, binomial, trinomial, polynomial, order of operations, substitution and evaluating polynomials	A-CED.2	Cards ace -5 (ace=1), paper, pencil
Inspector “X”	117	Solving linear equations	8.EE.7	Cards - ace-king (ace=1, jack=11, queen=12, king=0), calculators, paper, pencil
Equating Snap	118	Solving linear equations	8.EE.7	Cards - ace-king (ace=1, jack=11, queen=12, king=0), paper, pencil
Give Me Five	119	Solving linear equations	8.EE.7	One 12-sided (1-12) die, one 20-sided (1-20) die and one 3-sided (1-30) die per team, one hundred board per team, counts, paper, pencil
Linear Knock Offs	121	Solving linear equations, problem solving	8.EE.7	Four 30-sided (1-30) dice, 30 bingo chips per player (of their own colour), 1 number line per player, paper, pencil
Solution Seekers	122	Checking solutions (i.e., ordered pairs) to linear equations, substitutions, predicting	8.EE.7	One 3-sided (1-30) die, 1 regular die, paper, pencil
Algebra Math Football	124	Solving linear equations, adding binomial polynomials, recognition of polynomials, substitution, problem solving	8.EE.7	Football field, 5 bingo chips for markers, one 30-sided (1-30) die, one 10-sided (0-9) die, one 12-sided (1-12) die or various regular die of different colours
Millimetre Maze	129	Using a metric ruler, understanding millimeters, concept of horizontal and vertical, right angles, logical reasoning		1 gameboard per player, 1 decadic, pencil, ruler
Get To Your Corner	131	Plotting points on the Cartesian Plane, problem solving	6.NS.6	Cards ace -10 (ace=1), 1 cartesian plane, pencil
Plotting Along	133	Ordered pair recognition, plotting points, line recognition	6.NS.6	Two 10-sided (0-9) dice, bingo chips (different colour for each player), gameboard
Sixty Something	138	Order of operations, probability	3.OA.7 3.OA.8	Two 30-sided (1-30) dice, paper, pencil

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Mystery Roll	140	Sequencing numbers, probability, problem solving using logical reasoning, make predictions, percent	1.NBT.3	One 30-sided (1-30) die per player, paper, pencil
Mystery Roll Challengers	145	Addition of 2-digit numbers with regrouping, or multiplication of 2-digit factors, or place value to thousands	2.NBT.5 4.NBT.5	Two 30-sided (1-30) dice per player
Integer Mystery Roll	146	Sequencing integers and whole numbers, probability, logical reasoning, predicting	6.NS.5 6.NS.6	One 30-sided (1-30) die per player, paper, pencil
Roller Coaster	147	Probability, adding and subtracting with regrouping, integers, mental estimation	7.NS.1	One 30-sided (1-30) die, 1 gameboard per player, pencil
100 Wipe Out	149	Probability, mental estimation, subtraction	2.NBT.5	One 30-sided (1-30) die, 1 gameboard per player, pencil
Throwing For Three Hundred	150	Multiplication with decimals, addition w/regrouping, probability	5.NBT.7	1 decadie, one 10-sided (0-9) die per player
Attacking the M and M's!	152	Calculating mean, median and mode, analyzing data, estimating, mental math	6.SP.3	One 20-sided (1-20) die per player, calculator, paper, pencil
It's Probably Mr. Wolf	154	Conduct a probability experiment, analyze and interpret data, predicting, average	3.OA.8 6.SP.1	Ea. Pair: Cards - ace-queen (ace=1, jack=11, queen=12), 2 regular dice, paper, pencil, class chart
Graphing Operations	157	Gathering, organizing and interpreting data, +, -, x, ÷	2.OA.2 6.SP.5	Two 10-sided (0-9) dice, gameboard, paper, pencil
Big Sums	158	Problem solving, gathering data, recording data, interpreting data	3.NBT.2 6.SP.5	Thirty-six regular die per group, chart, paper, pencil
Seemingly Simple Doubles	160	Data collection, organization and interpretation of data, probability	6.SP.5	Thirty-six regular die per group, chart, paper, pencil, pencil crayons
Snappy Averages	161	Adding positive/negative integers and calculating the average	7.NS.1	Cards - ace-king (ace=1, jack=11, queen=12, king=0), one 10-sided (0-9) die, paper, pencil, calculator
Adding Fraction War	165	Adding proper fractions with unlike denominators, estimating, calculating decimal equivalents	5.NF.1	Cards - ace-king (ace=1, jack=11, queen=12, king=0), paper, pencil, calculator
Any Whole Number	166	Rounding and estimating proper fractions, adding fractions, adding fractions to the nearest whole	5.NF.1	Cards ace-9 (ace=1)

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Fraction Subtraction War	167	Subtracting proper fractions with unlike denominators, estimating, using a calculator	5.NF.1	Cards – ace -queen (ace=1, jack=11, queen=12), paper, pencil, calculator
Target Zero	168	Adding and subtracting tenths on a number line, including negative numbers	5.NBT.7	1 decadic, 1 number line per player, pencil and pointer
Double Reduce Snap	169	Doubling fractions, reducing fractions to simplest form	5.NF.4	2 twelve-sided (1-12) dice
Connor’s Equivalent Race	170	Building equivalent fractions	3.NF.3	Cards – ace -queen (ace=1, jack=11, queen=12)
Beat Mr. Mathjack	172	Equivalent fractions, adding fractions, probability, mental calculations	3.NF.3 5.NF.1	Fraction cards, 1 sheet for each player, counters
Fraction Roll Offs	174	Multiplying a whole number by a fraction	4.NF.4	Cards – ace -queen (ace=1, jack=11, queen=12), one 20-sided (1-20) die
Fraction “X”	175	Multiplying proper fractions with whole numbers, unlike denominators, estimating, using a calculator	5.NF.4	Cards – ace -queen (ace=1, jack=11, queen=12)
Fraction Get Back	176	Plotting integers and negative/positive fractions, adding and subtracting, problem solving	7.NS.1	Fractions cards, gameboard, markers, operation (+/-) die (or use a regular die 1,2, 3 = positive values, 4, 5, 6=negative values)
Fraction production	177	Multiplying proper and improper fractions, reducing fractions, comparing fractions	5.NF.4	Cards ace -9 (ace=1), one 12-sided (1-12) die, calculator
Brainy Fractions	178	Comparing fractions, converting to decimals, adding and subtracting fractions	4.NF.2 5.NF.1 5.NF.3	2 regular dice, cards ace -queen (ace=1, jack=11, queen=12), paper, pencil, calculator
Rock ‘N Ratios	180	Writing ratios using a colon, comparing ratios, expressing ratios as fractions, decimals and percents	6.RP.3	One 30-sided (1-30) die per player, paper, pencil, calculator
Least Common Multiple Snap	185	Finding the least common multiple, prime factorization	6.NS.4	one 12-sided (1-12) die, paper, pencil
Multiples To The End	186	Common multiples, multiplication, factors	4.OA.4	One 30-sided (1-30) die, one 10-sided (0-9) die, gameboard, paper, pencil
Prime It!	189	Constructing factor trees and identifying the prime factors of a number	4.OA.4	1 decadic and one 10-sided (0-9) die per player or group, gameboard, plain paper pencil
Prime And Punishment	191	Prime factorization, addition with regrouping, problem solving		Cards king -9 (king=0), paper, pencil, calculator

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Deca Prime Snap	193	Prime factorization of 2-digit numbers	4.OA.4	1 decadie, one 10-sided (0-9) die, paper, pencil
Detective Line UP	194	Identifying and analyzing patterns		2 decadice, two 10-sided (0-9) dice, two 12-sided (1-12) dice, two 20-sided (1-20) dice, two 30-sided (1-30) dice, gameboard, pencil
Taking Interest	195	Calculating simple interest using a formula	7.RP.3	Cards ace -9 (ace=1), one 10-sided (0-9) die, one regular die, paper, pencil, calculator
Pocket Savings	196	Calculating percent (%) discount, counting mixed change	7.RP.3	Cards king -9 (king=0, ace=1), mixed coins, paper, pencil, 1 decadie per player, calculator
What Percent Snap	198	Calculating percent	6.RP.3	Cards king -9 (king=0, ace=1), 1 decadie, paper, pencil, calculator
Making The Grade	199	Calculating percent	6.RP.3	1 decadie and one 10-sides (0-9) die per player, pencil, paper
Twice Around the Track	201	Converting radian measure to degree measure	F-TF.1 F-TF.2	Playing cards 1-4 and 6, paper, pencil
Double Time Around The Track	202	Determining the trig ratio from the radian measure on a unit circle	F-TF.1	Playing cards 1-4 and 6, 1 regular die, 1 gameboard per player