

Top-It Games

The materials, number of players, and object of the game are the same for all *Top-It* games.

Materials ☐ number cards 1–10 (4 of each)

☐ 1 calculator (optional)

Players 2 to 4

Skill Addition, subtraction, multiplication, and division facts

Object of the game To collect the most cards.



Addition Top-It

Directions

1. Shuffle the deck and place it number-side down on the table.
2. Each player turns over 2 cards and calls out the sum of the numbers. The player with the largest sum takes all the cards. In case of a tie for the largest sum, each tied player turns over 2 more cards and calls out the sum of the numbers. The player with the largest sum takes all the cards from both plays.
3. Check answers using an Addition Table or a calculator.
4. The game ends when there are not enough cards left for each player to have another turn.
5. The player with the most cards wins.

Variation Each player turns over 3 cards and finds their sum.

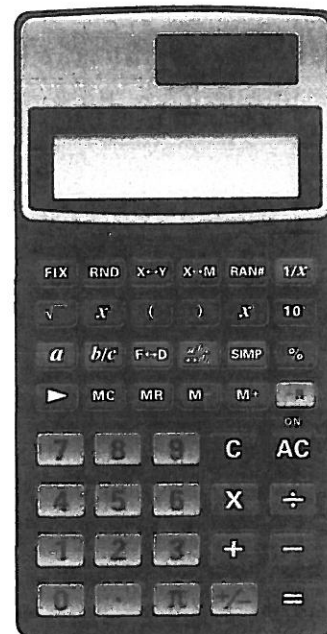
Advanced Version

Use only the number cards 1–9. Each player turns over 4 cards, forms two 2-digit numbers, and finds the sum. Players should carefully consider how they form their numbers since different arrangements have different sums. For example, 74 + 52 has a greater sum than 47 + 25.

Subtraction Top-It

Directions

1. Each player turns over 3 cards, finds the sum of any 2 of the numbers, then finds the difference between the sum and the third number.
2. The player with the largest difference takes all the cards.



Example

A 4, an 8, and a 3 are turned over. There are three ways to form the numbers. Always subtract the smaller number from the larger one.

$$\begin{array}{llll} 4 + 8 = 12 & \text{or} & 3 + 8 = 11 & \text{or} & 3 + 4 = 7 \\ 12 - 3 = 9 & & 11 - 4 = 7 & & 8 - 7 = 1 \end{array}$$

Advanced Version

Use only the number cards 1–9. Each player turns over 4 cards, forms two 2-digit numbers, and finds their difference. Players should carefully consider how they form their numbers. For example, $75 - 24$ has a greater difference than $57 - 42$ or $74 - 25$.

Multiplication Top-It**Directions**

1. The rules are the same as for *Addition Top-It*, except that players find the product of the numbers instead of the sum.
2. The player with the largest product takes all the cards.
Answers can be checked with a Multiplication Table or a calculator.

Variation

Use only the number cards 1–9. Each player turns over 3 cards, forms a 2-digit number, then multiplies the 2-digit number by the remaining number.

Division Top-It**Directions**

1. Use only the number cards 1–9. Each player turns over 3 cards and uses them to generate a division problem as follows:
 - ♦ Choose 2 cards to form the dividend.
 - ♦ Use the remaining card as the divisor.
 - ♦ Divide and drop any remainder.
2. The player with the largest quotient takes all the cards.

Advanced Version

Use only the number cards 1–9. Each player turns over 4 cards, chooses 3 of them to form a 3-digit number, then divides the 3-digit number by the remaining number. Players should carefully consider how they form their 3-digit numbers. For example, $462/5$ is greater than $256/4$.



Games

Addition Top-It

Materials 20 number cards 0–10 (4 of each)

Players 2 to 4

Skill Addition facts 0 to 10

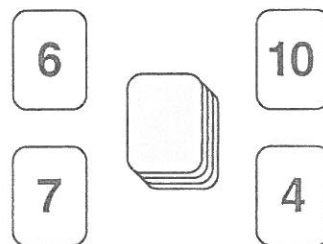
Object of the game To collect the most cards.

Directions

1. Shuffle the cards. Place the deck number-side down on the table.
2. Each player turns over 2 cards and calls out the sum of the numbers.
3. The player with the largest sum wins the round and takes all the cards.
4. In case of a tie for the largest sum, each tied player turns over 2 more cards and calls out the sum of the numbers. The player with the largest sum then takes all the cards from both plays.
5. The game ends when not enough cards are left for each player to have another turn.
6. The player with the most cards wins.

Example

Ann turns over a 6 and a 7. She calls out 13. Joe turns over a 10 and a 4. He calls out 14. Joe has the larger sum. He takes all 4 cards.



Addition Top-It Record Sheet

Players _____ and _____

Write the number sentences for each round. Circle the winning sum.

<p style="text-align: center;">Round 1</p> $\underline{\quad\quad} + \underline{\quad\quad} = \underline{\quad\quad}$ $\underline{\quad\quad} + \underline{\quad\quad} = \underline{\quad\quad}$	<p style="text-align: center;">Round 2</p> $\underline{\quad\quad} + \underline{\quad\quad} = \underline{\quad\quad}$ $\underline{\quad\quad} + \underline{\quad\quad} = \underline{\quad\quad}$
<p style="text-align: center;">Round 3</p> $\underline{\quad\quad} + \underline{\quad\quad} = \underline{\quad\quad}$ $\underline{\quad\quad} + \underline{\quad\quad} = \underline{\quad\quad}$	<p style="text-align: center;">Round 4</p> $\underline{\quad\quad} + \underline{\quad\quad} = \underline{\quad\quad}$ $\underline{\quad\quad} + \underline{\quad\quad} = \underline{\quad\quad}$
<p style="text-align: center;">Round 5</p> $\underline{\quad\quad} + \underline{\quad\quad} = \underline{\quad\quad}$ $\underline{\quad\quad} + \underline{\quad\quad} = \underline{\quad\quad}$	<p style="text-align: center;">Round 6</p> $\underline{\quad\quad} + \underline{\quad\quad} = \underline{\quad\quad}$ $\underline{\quad\quad} + \underline{\quad\quad} = \underline{\quad\quad}$

Subtraction Top-It

Materials □ number cards 0–20 (4 of each card 0–10, and 1 of each card 11–20)

Players 2 to 4

Skill Subtraction facts

Object of the game To collect the most cards.

Directions

1. Shuffle the cards. Place the deck number-side down on the table.
2. Each player turns over 2 cards and subtracts the smaller number from the larger number.
3. The player with the largest difference wins the round and takes all the cards.
4. In case of a tie for the largest difference, each tied player turns over 2 more cards and calls out the difference of the numbers. The player with the largest difference then takes all the cards from both plays.
5. The game ends when not enough cards are left for each player to have another turn.
6. The player with the most cards wins.

Example

Ann turns over a 2 and a 14.

She subtracts 2 from 14 and calls out 12.

2

14

Joe turns over a 10 and a 4.

He subtracts 4 from 10 and calls out 6.

10

4

Ann has the larger difference. She takes all 4 cards.



three hundred ten

Example Ann turns over a 12 and a 6.

12 6

She subtracts $12 - 6$ and calls out 6.

Joe turns over a 9 and a 3.

9 3

He subtracts $9 - 3$ and calls out 6.

There is a tie. So both players turn over 2 more cards.

Ann turns over a 10 and an 8.

10 8

She subtracts $10 - 8$ and calls out 2.

Joe turns over a 7 and a 3.

7 3

He subtracts $7 - 3$ and calls out 4.

Joe takes all 8 cards.

Multiplication Top-It

Materials ☐ number cards 0–10 (4 of each)

Players 2 to 4

Skill Multiplication facts 0 to 10

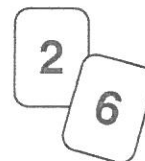
Object of the game To collect the most cards.

Directions

1. Shuffle the cards. Place the deck number-side down on the table.
2. Each player turns over 2 cards and calls out the product of the numbers.
3. The player with the largest product wins the round and takes all the cards.
4. In case of a tie for the largest product, each tied player turns over 2 more cards and calls out the product of the numbers. The player with the largest product then takes all the cards from both plays.
5. The game ends when there are not enough cards left for each player to have another turn.
6. The player with the most cards wins.

Example

Ann turns over a 2 and a 6. She calls out 12.
Beth turns over a 6 and a 0. She calls out 0.
Joe turns over a 10 and a 4. He calls out 40.
Joe has the largest product. He takes all 6 cards.



Example

Ann turns over a 3 and an 8.

3	8
---	---

She multiplies 3×8 and calls out 24.

Beth turns over a 4 and a 6.

4	6
---	---

She multiplies 4×6 and calls out 24.

Joe turns over a 9 and a 2.

9	2
---	---

He multiplies 9×2 and calls out 18.

Ann and Beth are tied with 24.

So they each turn over 2 more cards.

Ann turns over a 3 and a 7.

3	7
---	---

She multiplies 3×7 and calls out 21.

Beth turns over an 8 and a 4.

8	4
---	---

She multiplies 8×4 and calls out 32.

Beth wins and takes all 10 cards.

Beat the Calculator (Addition)

Materials 1. number cards 0–9 (4 of each)
2. 1 calculator

Players 3

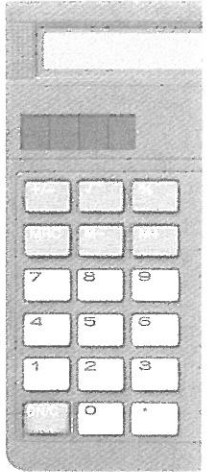
Skill Mental addition skills

Object of the game To add numbers without a calculator faster than a player using one.

Directions

1. One player is the “Caller.” A second player is the “Calculator.” The third player is the “Brain.”
2. Shuffle the cards and place them number-side down on the table.
3. The Caller draws 2 cards from the number deck and asks for the sum of the numbers.
4. The Calculator solves the problem *with* a calculator. The Brain solves it *without* a calculator. The Caller decides who got the answer first.
5. The caller continues to draw 2 cards at a time from the number deck and to ask for the sum of the numbers.
6. Players trade roles every 10 turns or so.

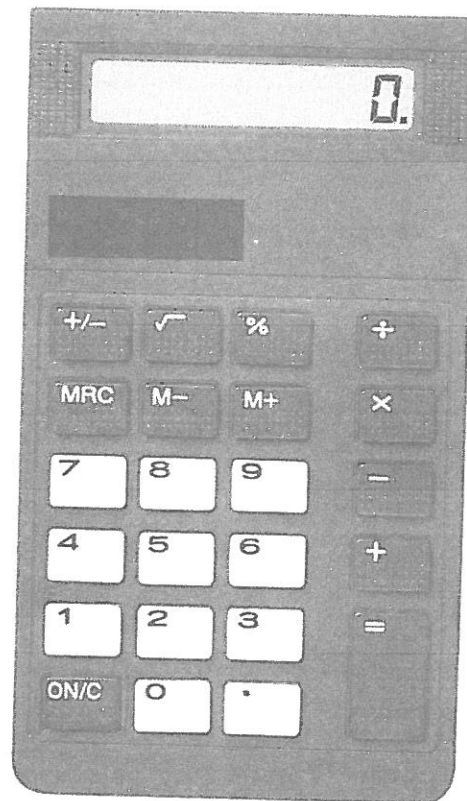
Example The Caller draws a 7 and a 9. The Caller says, “7 plus 9.” The Brain and the Calculator each solve the problem. The Caller decides who got the answer first.



two hundred seventy-eight

LESSON
11-9***Beat the Calculator*****Materials** ☐ calculator**Players** 3 (Caller, Brain, and Calculator)**Directions**

1. The Caller reads fact problems from the Brain's journal—in the order listed on the next page.
2. The Brain solves each problem and says the answer.
3. While the Brain is working on the answer, the Calculator solves each problem using a calculator and says the answer.
4. If the Brain beats the Calculator, the Caller makes a check mark next to the fact in the Brain's journal.



LESSON
11•9
Beat the Calculator *continued*

✓	✓	✓	Fact Problem
			$2 \times 4 = \underline{\quad}$
			$3 \times 5 = \underline{\quad}$
			$2 \times 2 = \underline{\quad}$
			$4 \times 3 = \underline{\quad}$
			$5 \times 5 = \underline{\quad}$
			$6 \times 2 = \underline{\quad}$
			$6 \times 5 = \underline{\quad}$
			$3 \times 3 = \underline{\quad}$
			$4 \times 5 = \underline{\quad}$
			$3 \times 6 = \underline{\quad}$

✓	✓	✓	Fact Problem
			$7 \times 3 = \underline{\quad}$
			$5 \times 2 = \underline{\quad}$
			$6 \times 4 = \underline{\quad}$
			$2 \times 7 = \underline{\quad}$
			$3 \times 2 = \underline{\quad}$
			$4 \times 4 = \underline{\quad}$
			$4 \times 1 = \underline{\quad}$
			$4 \times 7 = \underline{\quad}$
			$7 \times 5 = \underline{\quad}$
			$0 \times 2 = \underline{\quad}$

Beat the Calculator

Multiplication Facts

Materials 20 number cards 1–10 (4 of each)

 1 calculator

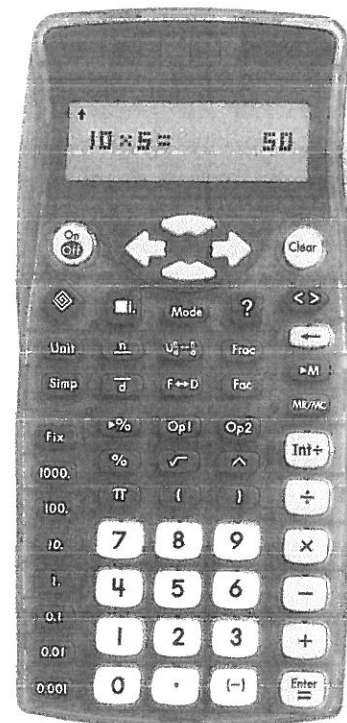
Players 3

Skill Mental multiplication skills

Object of the game To multiply numbers without a calculator faster than a player using one.

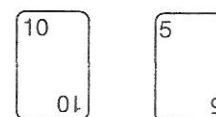
Directions

1. One player is the “Caller,” one is the “Calculator,” and one is the “Brain.”
2. Shuffle the deck and place it number-side down on the table.
3. The Caller draws 2 cards from the number deck and asks for their product.
4. The Calculator solves the problem using a calculator. The Brain solves it without a calculator. The Caller decides who got the answer first.
5. The Caller continues to draw 2 cards at a time from the number deck and ask for their product.
6. Players trade roles every 10 turns or so.



Example

The Caller draws a 10 and a 5 and calls out “10 times 5.”
The Brain and the Calculator each solve the problem.
The Caller decides who got the answer first.



Extended Multiplication Facts

In this version of the game, the Caller:

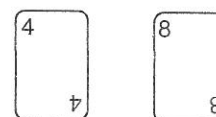
- ♦ Draws 2 cards from the number deck.
- ♦ Attaches a 0 to either one of the factors, or to both factors, before asking for the product.

Example

If the Caller turns over a 4 and an 8, he or she may make up any one of the following problems:

4 * 80 40 * 8 40 * 80

The Brain and the Calculator solve the problem.
The Caller decides who got the answer first.



Name _____

Date _____

Time _____

Beat the Calculator Gameboard



card 1



card 2

0



card 1

0



card 2



card 1

0



card 2

0

LESSON
7•3**Playing Basketball Addition****Materials**

- ☐ Basketball Addition scoreboard
(*Math Journal 2*, p. 167 or *Math Masters*, p. 451)

- ☐ 3 regular dice

Players

2 teams of 3–5 players each

Skill

Add three or more 1- and 2-digit numbers

Object of the Game To score a greater number of points

Directions

1. Players on opposite teams take turns rolling the 3 dice.
2. Each player enters the sum of the numbers on the 3 dice in the Points Scored table.
3. After each player on a team has rolled the dice, each team finds the total number of points scored by their team for the first half of the game and enters the Team Score in the table.
4. Players repeat Steps 1–3 to find their team's score for the second half of the game.
5. Each team adds their team totals from both halves of the game to find their team's final score.
6. The team with the greater number of points wins the game.

LESSON

7•3

Basketball Addition**Points Scored**

	Points Scored			
	Team 1		Team 2	
	1st Half	2nd Half	1st Half	2nd Half
Player 1				
Player 2				
Player 3				
Player 4				
Player 5				
Team Score				

Point Totals	1st Half	2nd Half	Final
--------------	----------	----------	-------

Team 1	_____	_____	_____
--------	-------	-------	-------

Team 2	_____	_____	_____
--------	-------	-------	-------

1. Which team won the first half? _____

By how much? _____ points

2. Which team won the second half? _____

By how much? _____ points

3. Which team won the game? _____

By how much? _____ points

Baseball Multiplication (1 to 6 Facts)

- Materials**
- 1 Baseball Multiplication Game Mat (*Math Masters*, p. 445)
 - 2 six-sided dice
 - 4 counters
 - 1 calculator or a multiplication/division table

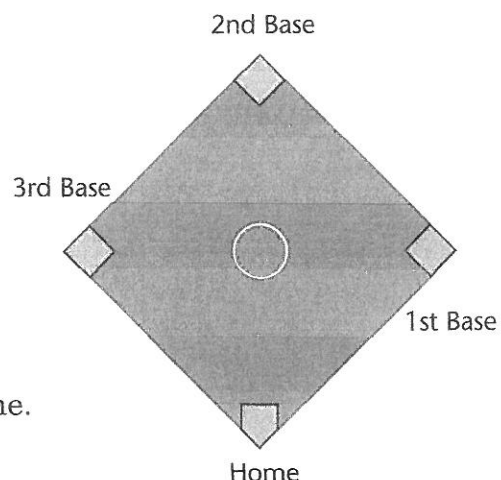
Players 2 teams of one or more players each

Skill Multiplication facts 1 to 6

Object of the game To score more runs in a 3-inning game.

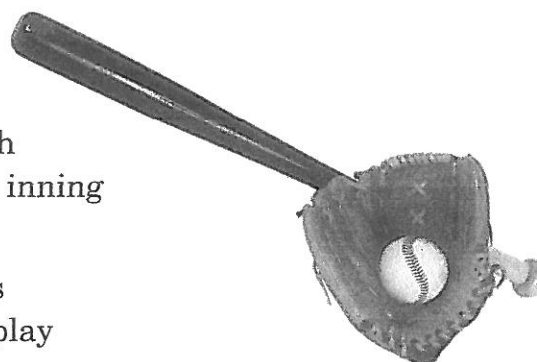
Directions

1. Draw a diamond and label *Home*, *1st base*, *2nd base*, and *3rd base*. Make a Scoreboard sheet like the one shown at the right.
2. Teams take turns being the *pitcher* and the *batter*. The rules are similar to the rules of baseball, but this game lasts only 3 innings.
3. The batter puts a counter on home plate. The pitcher rolls the dice. The batter multiplies the numbers rolled and gives the answer. The pitcher checks the answer and may use a calculator to do so.
4. If the answer is correct, the batter looks up the product in the Hitting Table at the right. If it is a hit, the batter moves all counters on the field the number of bases shown in the table. The pitcher tallies each out on the scoreboard.
5. An incorrect answer is a strike and another pitch (dice roll) is thrown. Three strikes make an out.
6. A run is scored each time a counter crosses home plate. The batter tallies each run scored on the Scoreboard.
7. After each hit or out, the batter puts a counter on home plate. The batting and pitching teams switch roles after the batting team has made 3 outs. The inning is over when both teams have made 3 outs.



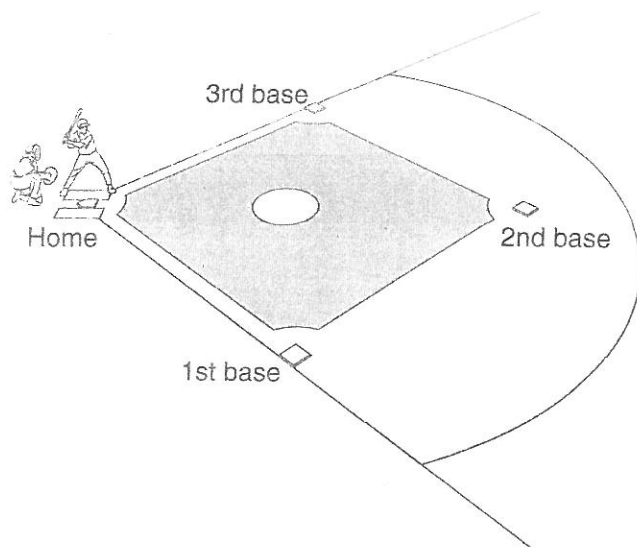
Scoreboard					
Inning		1	2	3	Total
Team 1	outs				
	runs				
Team 2	outs				
	runs				

Hitting Table 1 to 6 Facts	
1 to 9	Out
10 to 19	Single (1 base)
20 to 29	Double (2 bases)
30 to 35	Triple (3 bases)
36	Home Run (4 bases)



The team with more runs at the end of 3 innings wins the game. If the game is tied at the end of 3 innings, play continues into extra innings until one team wins.

Baseball Multiplication Game Mat



Hitting Table 1-to-6 Facts

1 to 9	Out
10 to 19	Single (1 base)
20 to 29	Double (2 bases)
30 to 35	Triple (3 bases)
36	Home Run (4 bases)

Inning		1	2	3	Total
Team 1	Outs				
	Runs				
Team 2	Outs				
	Runs				

Inning		1	2	3	Total
Team 1	Outs				
	Runs				
Team 2	Outs				
	Runs				

Inning		1	2	3	Total
Team 1	Outs				
	Runs				
Team 2	Outs				
	Runs				

Baseball Multiplication

Materials 1 *Baseball Multiplication* game mat
(*Math Masters*, p. 443)
2 six-sided dice
4 counters

Players 2 teams of one or more players each

Skill Multiplication facts 1 to 6

Object of the game To score more runs in a 3-inning game.

Directions

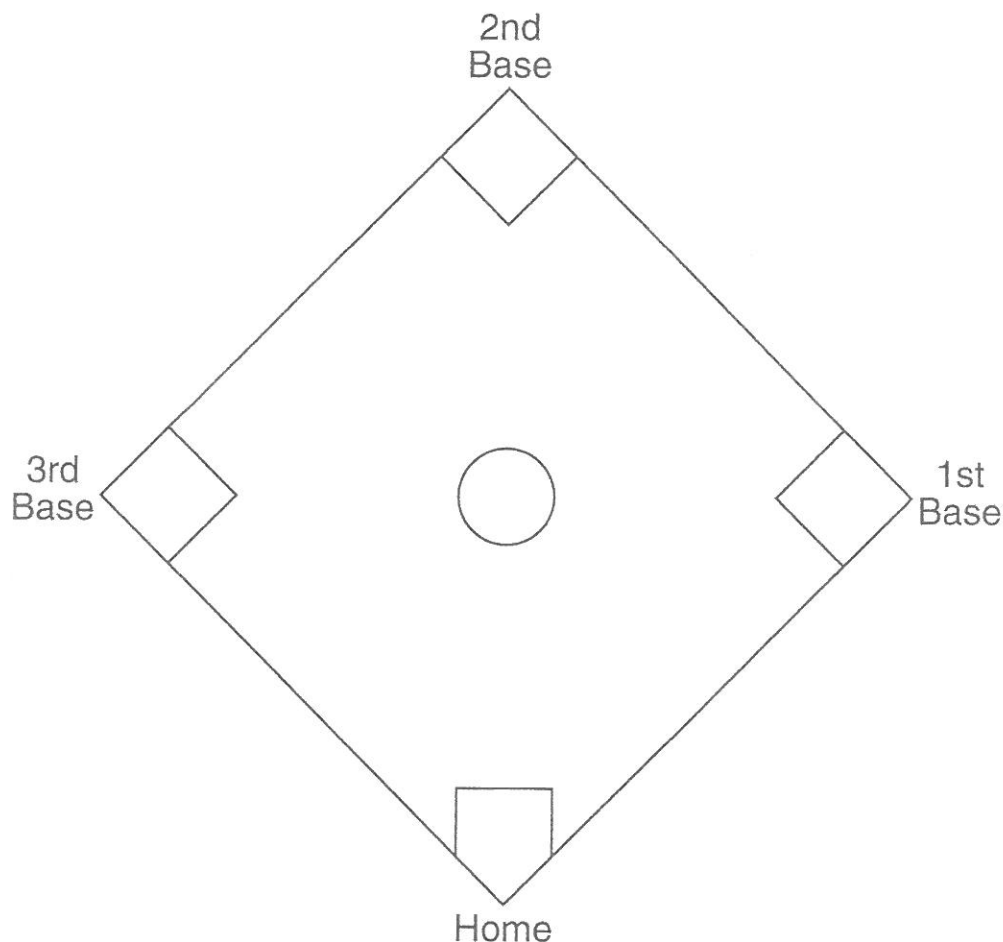
The rules are similar to the rules for baseball, but this game lasts only 3 innings. In each inning, each team bats until it makes 3 outs. Teams flip a coin to decide who bats first. The team with more runs when the game is over wins.

Pitching and batting: Members of the team not at bat take turns "pitching." They roll the two dice to get 2 factors. Players on the "batting" team take turns multiplying the 2 factors and saying the product.

The pitching team checks the product. (Use a calculator or the Multiplication/Division Facts Table on page 52.) An incorrect answer is a strike, and another pitch (dice roll) is thrown. Three strikes make an out.

Hits and runs: If the answer is correct, the batter checks the Scoring Chart on the game mat. If the chart shows a hit, the batter moves a counter to a base as shown in the Scoring Chart. Runners already on base are moved ahead of the batter by the same number of bases. A run is scored every time a runner crosses home plate.

Baseball Multiplication Game Mat



Scoreboard				
Inning	1	2	3	Final
Team 1				
Team 2				

Runs-and-Outs Tally					
Team 1			Team 2		
Runs	Outs		Runs	Outs	

Scoring Chart (for 2 six-sided dice)	
36 = Home run (score a run)	6 to 15 = Single (go to 1st base)
25 to 35 = Triple (go to 3rd base)	5 or less = Out (record an out)
16 to 24 = Double (go to 2nd base)	

Baseball Multiplication (Advanced Version)

- Materials**
- 1 *Baseball Multiplication* (Advanced) game mat (*Math Masters*, p. 444)
 - 1 twelve-sided die
 - 4 counters

Players 2 teams of one or more players each

Skill Multiplication facts through 12s

Object of the game To score more runs in a 3-inning game.

Directions

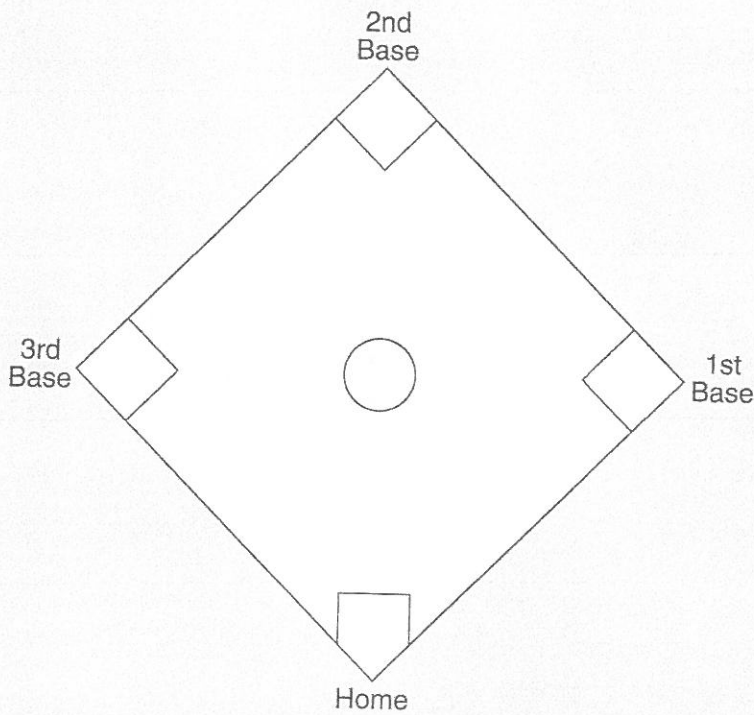
Members of one team take turns “pitching.” They roll the die twice to get 2 factors. Players on the “batting” team take turns multiplying the 2 factors and giving the product. When a correct product is given, the batter checks the Scoring Chart on the game mat.

The rest of the game is the same as a regular game of *Baseball Multiplication*.

You can make the Advanced Version of this game a bit easier with this rule:

If the die comes up as “11” or “12” on a roll, pretend that the die came up as “10.”



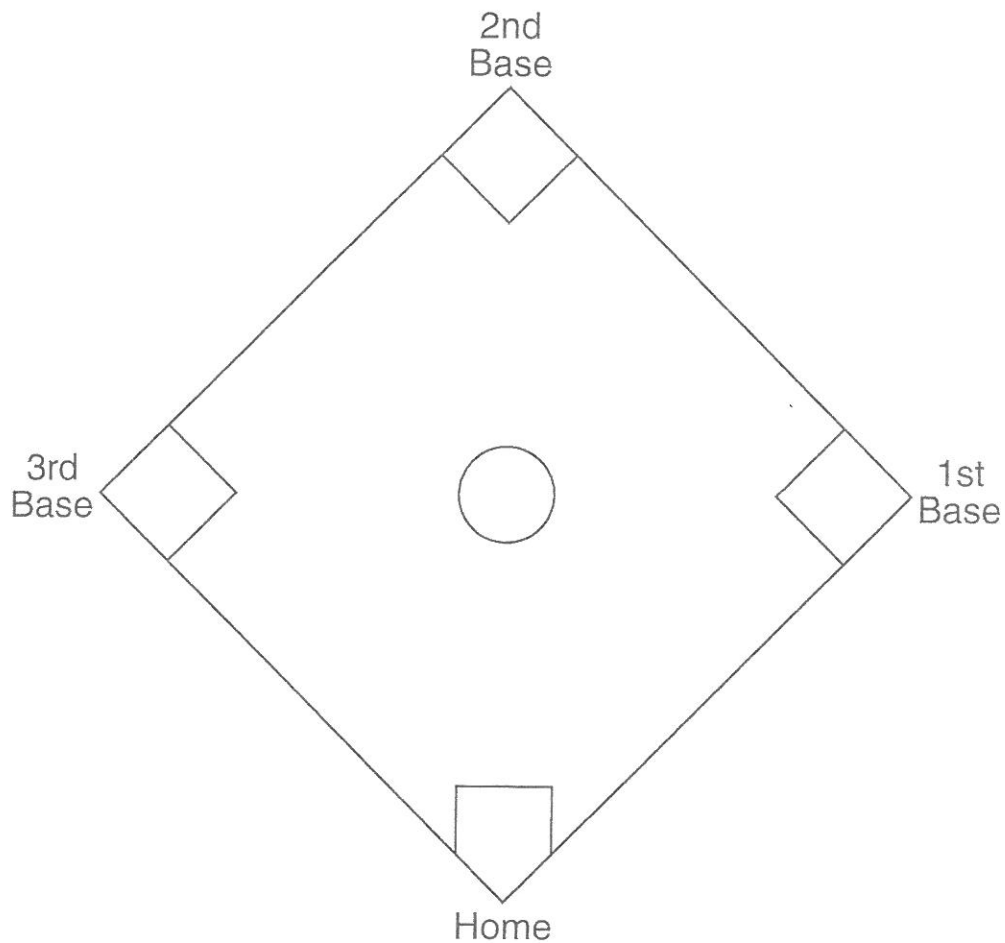
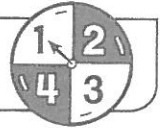


Scoreboard				
Inning	1	2	3	Total
Team 1				
Team 2				

Runs and Outs Tally			
Team 1		Team 2	
Runs	Outs	Runs	Outs

Scoring Chart (for 2 rolls of a 12-sided die)	
91 or more = Home run (score a run)	21 to 50 = Single (go to 1st base)
76 to 90 = Triple (go to 3rd base)	20 or less = Out (record an out)
51 to 75 = Double (go to 2nd base)	

Baseball Multiplication (Advanced)



Scoreboard				
Inning	1	2	3	Final
Team 1				
Team 2				

Runs-and-Outs Tally					
Team 1			Team 2		
Runs	Outs		Runs	Outs	

Scoring Chart (for 2 rolls of a 12-sided die)	
91 or more = Home run (score a run)	21 to 50 = Single (go to 1st base)
76 to 90 = Triple (go to 3rd base)	20 or less = Out (record an out)
51 to 75 = Double (go to 2nd base)	

Multiplication Wrestling

Materials ☐ number cards 0-9 (4 of each)

Players 2

Skill Partial-Products Algorithm

Object of the game To get the larger product of two 2-digit numbers.

Directions

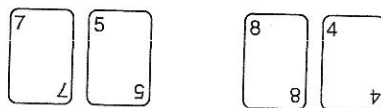
1. Shuffle the deck and place it number-side down on the table.
2. Each player draws 4 cards and forms two 2-digit numbers. Players should form their 2 numbers so that their product is as large as possible.
3. Players create 2 "wrestling teams" by writing each of their numbers as a sum of 10s and 1s.
4. Each player's 2 teams wrestle. Each member of the first team (for example, 70 and 5) is multiplied by each member of the second team (for example, 80 and 4). Then the 4 products are added.
5. The player with the larger product wins the round and receives 1 point.
6. To begin a new round, each player draws 4 new cards to form 2 new numbers. A game consists of 3 rounds.

Example

Player 1:

Draws 4, 5, 7, 8

Forms 75 and 84



$$75 * 84$$

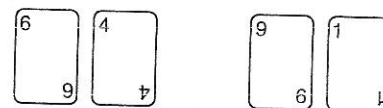
	Team 1 (70 + 5)	*	Team 2 (80 + 4)	
Products:	70 * 80 =		5,600	
	70 * 4 =		280	
	5 * 80 =		400	
	5 * 4 =		20	
Total			5,000	
(add 4 products)			1,200	
			+ 100	
			6,300	

$$75 * 84 = 6,300$$

Player 2:

Draws 1, 4, 9, 6

Forms 64 and 91



$$64 * 91$$

	Team 1 (60 + 4)	*	Team 2 (90 + 1)	
Products:	60 * 90 =		5,400	
	60 * 1 =		60	
	4 * 90 =		360	
	4 * 1 =		4	
Total			5,000	
(add 4 products)			700	
			120	
			+ 4	
			5,824	

$$64 * 91 = 5,824$$

Multiplication Wrestling Record Sheet



Round 1 Cards: _____

Numbers formed: _____ * _____

Teams: (_____ + _____) * (_____ + _____)

Products: _____ * _____ = _____

_____ * _____ = _____

_____ * _____ = _____

_____ * _____ = _____

Total (add 4 products): _____



Round 2 Cards: _____

Numbers formed: _____ * _____

Teams: (_____ + _____) * (_____ + _____)

Products: _____ * _____ = _____

_____ * _____ = _____

_____ * _____ = _____

_____ * _____ = _____

Total (add 4 products): _____

Round 3 Cards: _____

Numbers formed: _____ * _____

Teams: (_____ + _____) * (_____ + _____)

Products: _____ * _____ = _____

_____ * _____ = _____

_____ * _____ = _____

_____ * _____ = _____

Total (add 4 products): _____

Division Dash

Materials ☐ number cards 1–9 (4 of each)
☐ 1 score sheet

Players 1 or 2

Skill Division of 2-digit by 1-digit numbers

Object of the game To reach 100 in the fewest divisions possible.

Directions

1. Prepare a score sheet like the one shown at the right.
2. Shuffle the cards and place the deck number-side down on the table.
3. Each player follows the instructions below:
 - ◆ Turn over 3 cards and lay them down in a row, from left to right. Use the 3 cards to generate a division problem. The 2 cards on the left form a 2-digit number. This is the *dividend*. The number on the card at the right is the *divisor*.
 - ◆ Divide the 2-digit number by the 1-digit number and record the result. This result is your quotient. Remainders are ignored. Calculate mentally or on paper.
 - ◆ Add your quotient to your previous score and record your new score. (If this is your first turn, your previous score was 0.)
4. Players repeat Step 3 until one player's score is 100 or more. The first player to reach at least 100 wins. If there is only one player, the Object of the game is to reach 100 in as few turns as possible.

Player 1		Player 2	
Quotient	Score	Quotient	Score

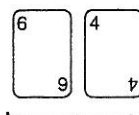
Example

Turn 1: Bob draws 6, 4, and 5. He divides 64 by 5. Quotient = 12. Remainder is ignored. The score is $12 + 0 = 12$.

Turn 2: Bob then draws 8, 2, and 1. He divides 82 by 1. Quotient = 82. The score is $82 + 12 = 94$.

Turn 3: Bob then draws 5, 7, and 8. He divides 57 by 8. Quotient = 7. Remainder is ignored. The score is $7 + 94 = 101$.

Bob has reached 100 in 3 turns and the game ends.



64 is the dividend.



5 is the divisor.

Quotient	Score
12	12
82	94
7	101

Name _____

Date _____

Time _____

Division Dash Record Sheet

	Division Problem	Quotient	Score
Sample	$49 \div 4$	$12 R1$	12
1			
2			
3			
4			
5			

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Name _____

Date _____

Time _____

Division Dash Record Sheet

	Division Problem	Quotient	Score
Sample	$49 \div 4$	$12 R1$	12
1			
2			
3			
4			
5			

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HOW TO PLAY CLOSE TO 100

Materials

- One deck of Numeral Cards
- Close to 100 Score Sheet for each player

Players: 1, 2, or 3

How to Play

1. Deal out six Numeral Cards to each player.
2. Use any four of your cards to make two numbers.
For example, a 6 and a 5 could make either 56 or 65. Wild Cards can be used as any numeral. Try to make numbers that, when added, give you a total that is close to 100.
3. Write these two numbers and their total on the Close to 100 Score Sheet. For example:
 $42 + 56 = 98$.
4. Find your score. Your score is the difference between your total and 100. For example, if your total is 98, your score is 2. If your total is 105, your score is 5.
5. Put the cards you used in a discard pile. Keep the two cards you didn't use for the next round.
6. For the next round, deal four new cards to each player. Make more numbers that come close to 100. When you run out of cards, mix up the discard pile and use those cards again.
7. Five rounds make one game. Total your scores for the five rounds. LOWEST score wins!

Scoring Variation

Write the score with minus and plus signs to show the direction of your total away from 100. For example: If your total is 98, your score is -2 . If your total is 105, your score is $+5$. The total of these two scores would be $+3$. Your goal is to get a total score for five rounds that is close to 0.

CLOSE TO 100 SCORE SHEET

Name _____

GAME 1**Score**

Round 1: _____ + _____ = _____ _____

Round 2: _____ + _____ = _____ _____

Round 3: _____ + _____ = _____ _____

Round 4: _____ + _____ = _____ _____

Round 5: _____ + _____ = _____ _____

TOTAL SCORE _____

Name _____

GAME 2**Score**

Round 1: _____ + _____ = _____ _____

Round 2: _____ + _____ = _____ _____

Round 3: _____ + _____ = _____ _____

Round 4: _____ + _____ = _____ _____

Round 5: _____ + _____ = _____ _____

TOTAL SCORE _____

Close to 1000

Materials

- One deck of Numeral Cards
- Close to 1000 Score Sheet for each player

Players: 2

How to Play

1. Deal out eight Numeral Cards to each player.
2. Use any six cards to make two numbers. For example, a 6, a 5, and a 2 could make 652, 625, 526, 562, 256, or 265. Wild Cards can be used as any numeral. Try to make two numbers that, when added, give you a total that is close to 1000.
3. Write these numbers and their total on the Close to 1000 Score Sheet. For example: $652 + 347 = 999$.
4. Find your score. Your score is the difference between your total and 1000.
5. Put the cards you used in a discard pile. Keep the two cards you didn't use for the next round.
6. For the next round, deal six new cards to each player. Make more numbers that come close to 1000. When you run out of cards, mix up the discard pile and use them again.
7. After five rounds, total your scores. Lower score wins.

Scoring Variation Write the score with plus and minus signs to show the direction of your total away from 1000. For example: If your total is 999, your score is -1 . If your total is 1005, your score is $+5$. The total of these two scores would be $+4$. Your goal is to get a total score for five rounds that is close to 0.

Close to 1000 Score Sheet**Game 1****Score**Round 1: + = Round 2: + = Round 3: + = Round 4: + = Round 5: + = TOTAL SCORE **Game 2****Score**Round 1: + = Round 2: + = Round 3: + = Round 4: + = Round 5: + = TOTAL SCORE

Close to 0

Materials

- One deck of Numeral Cards
- Close to 0 Score Sheet for each player

Players: 1, 2, or 3

How to Play

1. Deal out eight Numeral Cards to each player.
2. Use any six cards to make two numbers. For example, a 6, a 5, and a 2 could make 652, 625, 526, 562, 256, or 265. Wild Cards can be used as any numeral. Try to make two numbers that, when subtracted, give you a difference that is close to 0.
3. Write these numbers and their difference on the Close to 0 Score Sheet. For example: $652 - 647 = 5$. The difference is your score.
4. Put the cards you used in a discard pile. Keep the two cards you didn't use for the next round.
5. For the next round, deal six new cards to each player. Make two more numbers with a difference close to 0. When you run out of cards, mix up the discard pile and use them again.
6. After five rounds, total your scores. Lowest score wins.

Close to 0 Score Sheet

Game 1	Score
Round 1: <u> </u> <u> </u> <u> </u> - <u> </u> <u> </u> <u> </u> = <u> </u>	<u> </u>
Round 2: <u> </u> <u> </u> <u> </u> - <u> </u> <u> </u> <u> </u> = <u> </u>	<u> </u>
Round 3: <u> </u> <u> </u> <u> </u> - <u> </u> <u> </u> <u> </u> = <u> </u>	<u> </u>
Round 4: <u> </u> <u> </u> <u> </u> - <u> </u> <u> </u> <u> </u> = <u> </u>	<u> </u>
Round 5: <u> </u> <u> </u> <u> </u> - <u> </u> <u> </u> <u> </u> = <u> </u>	<u> </u>
TOTAL SCORE	<u> </u>

Game 2	Score
Round 1: <u> </u> <u> </u> <u> </u> - <u> </u> <u> </u> <u> </u> = <u> </u>	<u> </u>
Round 2: <u> </u> <u> </u> <u> </u> - <u> </u> <u> </u> <u> </u> = <u> </u>	<u> </u>
Round 3: <u> </u> <u> </u> <u> </u> - <u> </u> <u> </u> <u> </u> = <u> </u>	<u> </u>
Round 4: <u> </u> <u> </u> <u> </u> - <u> </u> <u> </u> <u> </u> = <u> </u>	<u> </u>
Round 5: <u> </u> <u> </u> <u> </u> - <u> </u> <u> </u> <u> </u> = <u> </u>	<u> </u>
TOTAL SCORE	<u> </u>

How to Play Multiplication Pairs

Materials

- Set of array cards
- Paper or pencil

Players: 1 or 2

How to Play

1. Spread out all the array cards in front of you. Some should be turned up, showing the dimensions. Others should be turned over to show the total.
2. Choose an array card and put your finger on it. (Don't pick it up until you say the answer.) If the dimensions are showing, you must give the total. If the total is showing, you must say the dimensions of the grid. The shape of the array will help you!

For example: Suppose you pick an array with total 36 showing. The dimensions could be 6×6 , or 9×4 , or 12×3 . You must decide which is right. The shape of the array is a good clue.

3. Turn the card over to check your answer. If your answer is correct, then pick up the card.
4. If you are playing with a partner, take turns choosing and identifying cards. Play until you have picked up all the cards.

While you are playing, make lists for yourself of "pairs that I know" and "pairs that I don't know yet." Keep these lists in your math folder.

How to Play Count and Compare

Materials: Set of array cards

Players: 2 or 3

How to Play

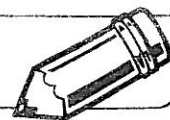
1. If you are playing with a partner, sit across from each other. If three people are playing, sit in a circle.
2. Deal out the array cards with the total sides face down. Players should all have the same number of cards. Set aside any that are left over.
3. Place your cards in a stack in front of you, with the total side face down.
4. Players take the top card from their stacks and place these cards side by side (total sides still face down).
5. Decide which array is largest. You can do this just by looking, or by skip counting by rows to find the total of each. Counting the squares by 1's is not allowed.
6. The player with the largest array takes the cards, after proving that it is the largest.
7. Sometimes arrays of the same size may be played in one turn—like this:

	3	4	
	4	3	

		2	6		
		6	2		

When this happens, the players decide together who will get the cards. Once a rule is decided, it cannot be changed until the game is over.

8. The game is over when time is up or one player runs out of cards.

LESSON
2·9**Number-Tile Problems**

Cut out the 20 number tiles at the bottom of the page. Use them to help you solve the problems.

1. Use five odd-numbered tiles to make the smallest possible difference.

—		

2. Use five even-numbered tiles (that includes 0) to make the largest possible difference. Do not use 0 as the first digit.

—		

3. Use one set of the number tiles 0–9. Find the missing digits in these addition and subtraction problems.

a.

	7	
—		3
	3	6

b.

	9		2
—		5	6
	8	2	

c.

	7		4
+		1	5
	1	2	8
			9

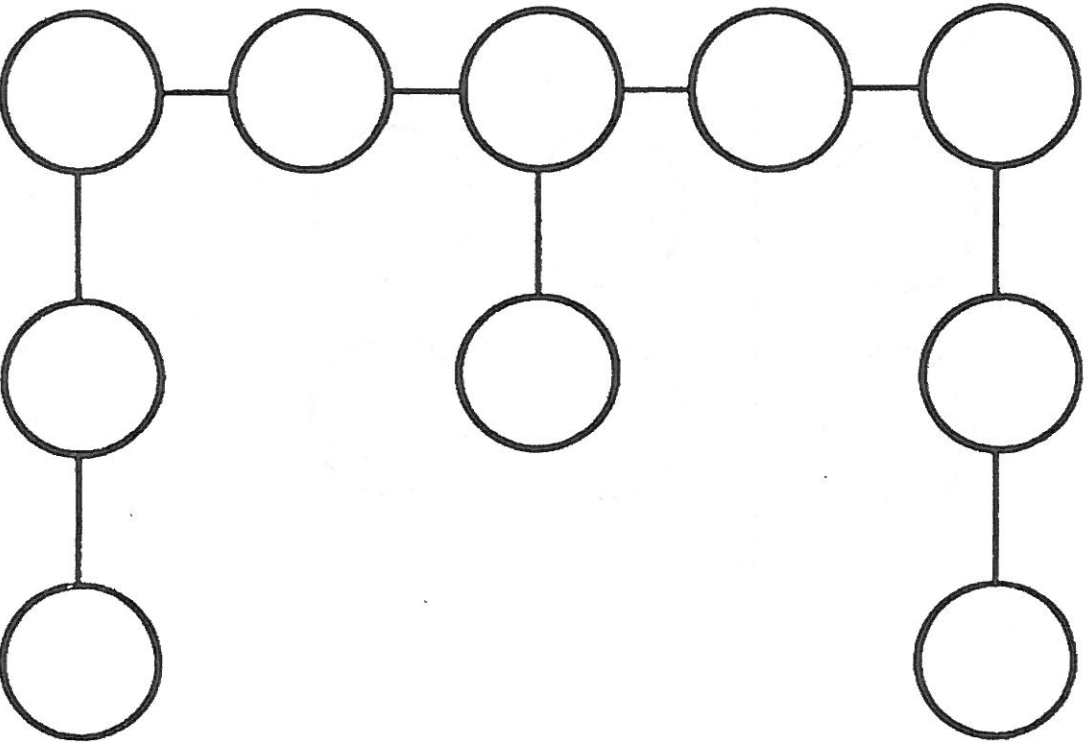
d.

	1		4
+		8	
		1	4

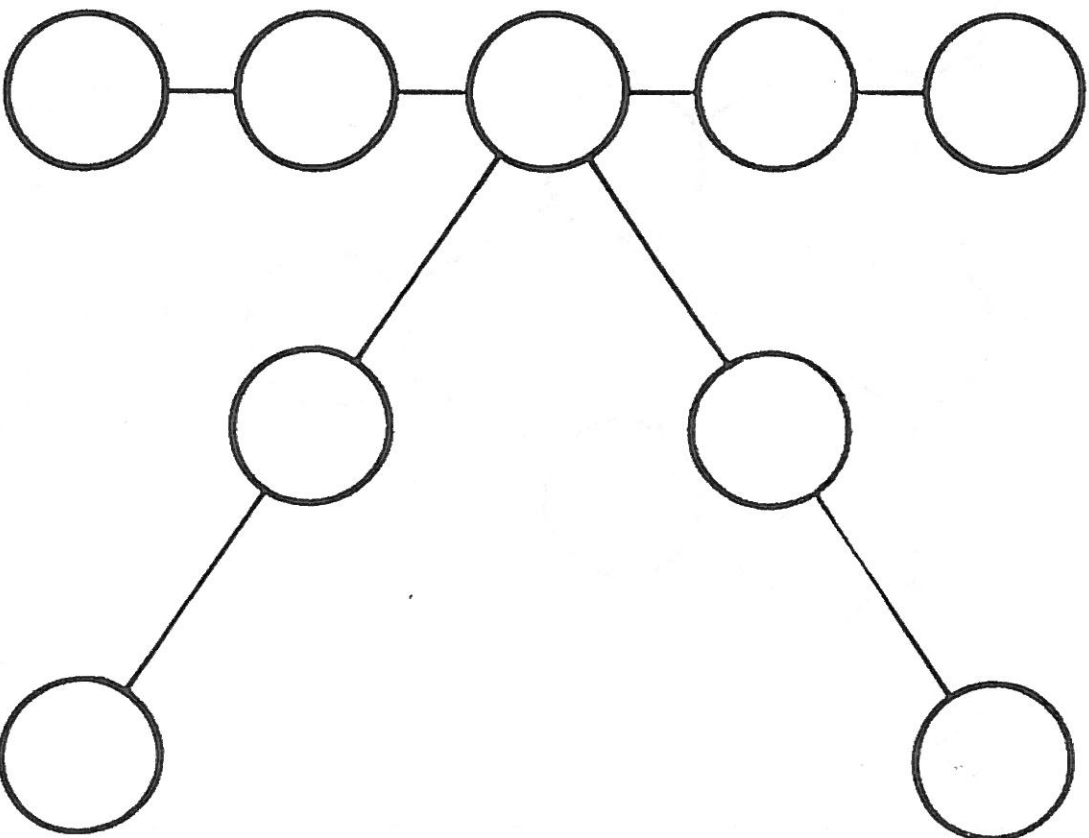
0	1	2	3	4	5	6	7	8	9
0	1	2	3	4	5	6	7	8	9



Put a tile in each circle so that the numerals in each line have the same sum.



Put a tile in each circle so that the numerals in each line have the same sum.



Use 7 tiles. Create two 2-digit addends with a correct 3-digit sum.

What is the least possible sum? _____

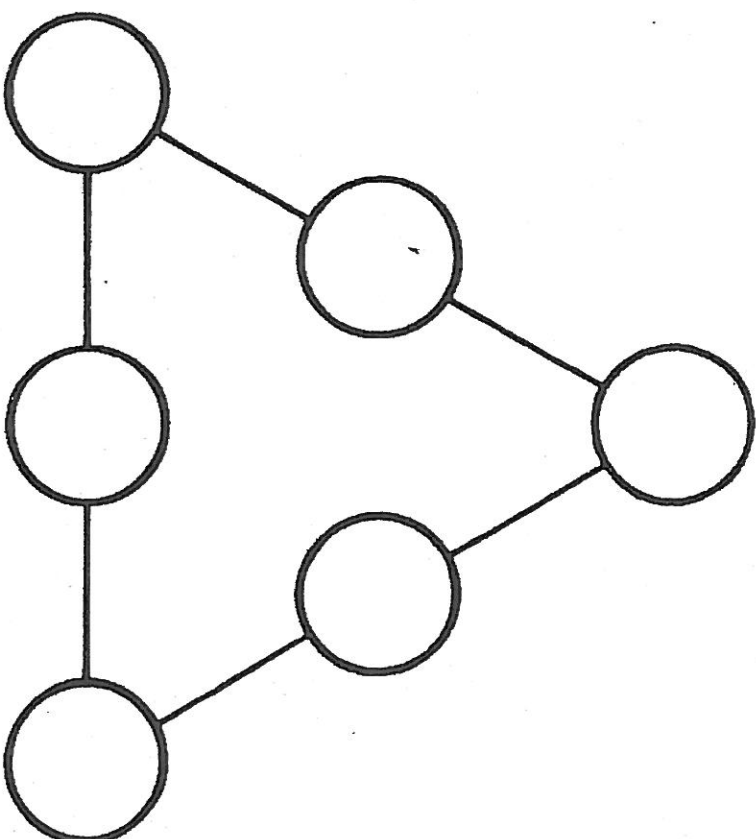
What is the greatest possible sum? _____

<div style="display: flex; justify-content: space-around; width: 100px;"> <div style="display: flex; flex-direction: column; align-items: center;"> <div style="display: flex; justify-content: space-around; width: 100px;"> <div style="border: 1px solid black; border-radius: 50%; width: 40px; height: 40px; margin: 5px;"></div> <div style="border: 1px solid black; border-radius: 50%; width: 40px; height: 40px; margin: 5px;"></div> </div> <div style="margin: 5px 0;">+</div> <div style="display: flex; justify-content: space-around; width: 100px;"> <div style="border: 1px solid black; border-radius: 50%; width: 40px; height: 40px; margin: 5px;"></div> <div style="border: 1px solid black; border-radius: 50%; width: 40px; height: 40px; margin: 5px;"></div> </div> </div> </div>		<div style="display: flex; flex-direction: column; align-items: center;"> <div style="border: 1px solid black; border-radius: 50%; width: 40px; height: 40px; margin: 5px;"></div> <div style="border: 1px solid black; border-radius: 50%; width: 40px; height: 40px; margin: 5px;"></div> <div style="border: 1px solid black; border-radius: 50%; width: 40px; height: 40px; margin: 5px;"></div> </div>
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Put a tile in each circle so that the sum of the numerals on each side of the triangle is the same.

What is the greatest possible sum? _____

What is the least possible sum? _____



TILES

0	1	2	3	4	5
<u>6</u>	7	8	<u>9</u>	0	1
2	3	4	5	<u>6</u>	7
8	<u>9</u>	0	1	2	3
4	5	<u>6</u>	7	8	<u>9</u>
0	1	2	3	4	5
<u>6</u>	7	8	<u>9</u>		