

# TOTALLY TUT

## MATH OPERATIONS GAME

Two levels of game play to practice addition, subtraction, multiplication, division, and order of operations!

Grades 3-6 for 2-4 PLAYERS

Level 1: Addition and Subtraction

Level 2: Addition, Subtraction, Multiplication and Division  
Order of operations practice in level 2

### CONTENTS:

- 1 game board
- 4 pyramid trays
- 55 yellow number triangles (levels 1 and 2)
- 8 green number triangles (level 2 only)
- 26 orange answer triangles (levels 1 and 2)
- 8 red answer triangles (level 2 only)
- 24 pink double-sided addition and subtraction operation triangles (levels 1 and 2)
- 24 blue double-sided multiplication and division operation triangles (level 2 only)

### OBJECT OF THE GAME:

To fill in your pyramid game board with triangle pieces by building accurate math problems.

### LEVEL 1: ADDITION AND SUBTRACTION

### SET UP:

Place all yellow and orange number triangles face down (no numbers showing). Place pink operation triangles in four piles near each corner of the game board.

Each player takes:

- 5 yellow number triangles
- 1 orange answer triangle
- 1 pyramid tray

*Original game concept by Henry Davis, an educational therapist and teacher who has worked with children in mathematics for over 20 years.*



Players place an answer triangle in the top triangle on their pyramid. Players should try to create accurate math problems in each row of the pyramid that equal this answer. For example, the answer triangle reads 4. Row 1 has three triangles, which includes 2 number triangles and 1 operation triangle. A correct problem could read:



In row 2, there are 5 triangles. A correct problem could read:



$$[8-5=3, 3+1=4]$$

In row 3, there are 7 triangles. A correct problem could read:



$$[9+1=10, 10-7=3, 3+1=4]$$

#### PLEASE NOTE:

- Operation triangles may be used in any order and with any frequency.
- The number sentence must correctly total the answer triangle at the top of the pyramid (negative values are not allowed).

#### PLAYING THE GAME:

The youngest player goes first by taking a turn on the spinner. There are four possible game play moves on the spinner:

1. TRADE a number...

A player swaps one number triangle with another player's number triangle. The player chooses which triangle from his or her own tray to trade.

2. STEAL a number...

A player takes one yellow triangle off another player's pyramid.

3. DRAW a number...

A player takes one yellow triangle from the center pile.





#### 4. NO NEW number...

A player only plays the pieces already in front of him or her.

Once a player has spun, he or she places triangles on the game board, filling in as many rows as possible. When the maximum number of triangles are placed, the player draws another number triangle to complete that turn. Even if you he or she was not able play any yellow number triangles at all; the player may still take another yellow triangle. That number triangle cannot be used until the next turn.

In order for a row to be completed, the player must read the math facts out loud! If a player has a piece stolen from one of his or her pyramid rows, the player has the option of removing that whole line and rearranging it. This includes replacing the number stolen, switching the order with one or more new numbers, or any arrangement to complete the row correctly. This option is taken by giving up a chance to spin. That player will still draw a number when finished.

Once a player chooses his or her final yellow answer triangle, the turn is over, and it is the next player's turn.

### **WINNING THE GAME:**

The first player to correctly complete each row of the pyramid wins! This player gets 50 points. All other players get five points for each number triangle in a correctly completed row. The group playing the game can decide what the target number of points will be to declare the winner of the game!

## LEVEL 2

### **MULTIPLICATION, DIVISION, ADDITION AND SUBTRACTION PLUS ORDER OF OPERATIONS!**

#### **SET-UP:**

All of the triangles can be used for level 2! Each player takes the number of pieces indicated in level one, except that the players can also choose from the red answer triangles, green number triangles, and the blue multiplication and division operation triangles.

Players must use the order of operations (multiply, divide, add, subtract) to create accurate math problems that will equal the red or orange answer triangle. Negative number values are allowed in this level of the game.





For example, the answer triangle reads **16**. Row 1 has three triangles. A correct problem could read:

$$\begin{array}{c} \triangle \quad \triangle \quad \triangle \\ 4 \quad \times \quad 4 \\ \hline \text{or} \\ \triangle \quad \triangle \quad \triangle \\ 7 \quad + \quad 9 \end{array}$$

In row 2, there are 5 triangles. A correct problem could read:

$$\begin{array}{c} \triangle \quad \triangle \quad \triangle \quad \triangle \quad \triangle \\ \underline{6} \quad \times \quad 4 \quad - \quad 8 \\ \hline 6 \times 4 = 24 - 8 = 16 \end{array}$$

In row 3, there are 7 triangles. A correct problem could read:

$$\begin{array}{c} \triangle \quad \triangle \quad \triangle \quad \triangle \quad \triangle \quad \triangle \quad \triangle \\ \underline{9} \quad \times \quad 8 \quad \div \quad \underline{9} \quad + \quad 8 \\ \hline 9 \times 8 = 72 \div 9 = 8 + 8 = 16 \\ \text{or} \\ \triangle \quad \triangle \quad \triangle \quad \triangle \quad \triangle \quad \triangle \quad \triangle \\ 3 \quad \times \quad 12 \quad \div \quad 2 \quad - \quad 2 \\ \hline 3 \times 12 = 36 \div 2 = 18 - 2 = 16 \end{array}$$

PLEASE NOTE:

- Operation triangles may be used in any order and with any frequency.
- The number sentence must correctly total the answer triangle at the top of the pyramid (negative values are not allowed).

### WINNING THE GAME:

The first player to correctly complete all rows of his or her pyramid wins! This player gets 50 points. All other players get five points for each number triangle in a correctly completed row. The group playing the game can decide what the total number of points will be needed to declare a winner of the game.

