

## **FRACTIONOPOLY**

### **Game Rules**

This project may be worked on individually, in pairs, or in a group of three.

**Your final product should be a high quality game that can be used in math class over and over again. You may use a computer to print any part of this project or you may write neatly. Make sure all fractions are written like  $\frac{1}{2}$ , not 1/2.**

### **Object**

The object of FRACTIONOPOLY is to be the first person to earn \$5,000. Money is made by correctly answering fraction questions in the following categories: comparing, converting, adding, subtracting, and finding equivalent fractions.

### **Preparation**

First a game board must be created. An example of how to start a game board has been included to assist you. The board **MUST** be on poster board, foam board, or some other durable material (at least 16 by 22 inches). The board should have the same number of spaces as the included sample. All non-corner spaces must contain both a fraction and a dollar amount (no more than \$300). The fractions (**NO** mixed or whole numbers) can be proper or improper. They should all have denominators less than 10 and numerators less than 20.

You may make your game board as creative and colorful as you wish! If you wish to have a theme for your game (such as state names, sports teams, etc. – the same way Monopoly has street names), you may incorporate this into your game. You may use clip art or other artwork.

Two dice are required for your game.

Two sets of game cards are required. The first set of 30 cards all contain fractions with the same qualifications (not the exact same fractions though) as the ones on the game board. The second set of 42 game cards contains: 6 “COMPARE” cards, 12 “ADD” cards, 12 “SUBTRACT” cards, 6 “CONVERT” cards, and 6 “EQUIVALENT” cards. On each convert card also write one whole number between 1 and 100. All cards should be made on **index cards**.

Each player will need paper and pencil to solve problems and keep track of their money.

Four (or more) game pieces of some sort will need to be created or found.

Each player will also need 25 coins (to use as heads or tails) or two-color chips or tokens of some kind. When you correctly answer a question you “win” that space and need to mark it in some way.

### **Playing**

All players place their token on the corner marked GO. The player that goes first rolls the two dice and moves his/her token the amount of spaces the dice say in the direction of the arrow. The player then draws one fraction card and one operation card. Based on the type of operation card, perform the following:

1. If it is an add or subtract card, perform the appropriate operation with the two fractions.
2. If it is a compare card, determine which fraction is greater.
3. If it is an equivalent card, find two equivalent fractions for each fraction.
4. If it is a convert card, place the whole number listed in front of each fraction and convert both of them to improper fractions.

**All players then solve the problem.** Once everyone has solved the problem, the players determine if the person whose turn it was got the correct answer. If correct, that person earns the amount of money listed on their space. That person also places one of their tokens on that space. Otherwise, no money is earned. That concludes one person's turn.

### **Jail**

If a player lands on “Go to Jail!” then that player must go directly to jail. He/she can get out of jail by doing one of these two things:

- Rolling doubles (you would then move the number the dice indicated)
- Waiting three rounds of play

If a player lands on “Visiting” he/she is just visiting and may go right through or exit on his/her next roll. When a player lands on “Free Parking” he/she does not do anything – this is just a resting place.

### **Landing on a space that contains another player's token**

When a player lands on a fraction that has already been won, the player must first pay the owner of that space the amount of money listed on that space. The player may then proceed with his/her turn as normal by answering the fraction problem.

## WHAT IS TO BE TURNED IN

Your high quality game board with ALL accompanying parts and pieces EXCEPT for the following (not required):

- Dice
- Coins or chips or tokens

Your math teacher can supply you with index cards to create your two sets of game cards. Cards should be kept in Ziploc bags, which can also be supplied by your math teacher.

For credit on this project you must play your game with **at least two people of age 16 or older**. ALL of the work for EVERY player must be turned in (problems solved in their entirety, where you kept track of score, etc.) You do not have to play until one person reaches \$5,000, but at least one hour of true game time should be played at a minimum.

**GOOD LUCK and HAVE FUN!!!!**