Terms of Use

Thank you for your purchase!

By purchasing this resource, you are agreeing that the contents are the property of **Inspired By Math** and licensed to you only for classroom/personal use as a single user. We retain the copyright, and reserve all rights to this product.

You MAY:

- Use free and purchased items for your own classroom students, or your own personal use.
- Reference this product in blog posts, at seminars, professional development, workshops, or other such venues, ONLY if credit is given to Inspired By Math as the author.

You MAY NOT:

- Claim this work as your own, alter the files in any way, or remove copyright.
- Sell the files or combine them into another unit for sale/free.
- Post this document for sale/free elsewhere on the internet (this includes Google Doc links on blogs).

Making copies of purchased items to share with others is strictly forbidden and is a violation of the terms of use.

Thank you for abiding by universally accepted codes of professional ethics while using this product. If you encounter an issue with your file, notice an error, or are in any way experiencing a problem, please contact us and we will be more than happy to help sort it out. You can message us at chill@inspiredbymath.net

Thank You!

Cassidy and Chloe - Inspired By Math

Name:_____

Prime Factorization Challenge

Objective: Practice prime factorization while competing with your classmates.

Materials:

- One deck of playing cards (remove face cards and jokers)
- Paper and pencil for calculations

Rules:

1. The dealer shuffles the deck and deals 5 cards to each player.
2. Each player adds up the values of their cards. (Ace = 1, other cards = face value)
3. Players then find the prime factorization of their total.
4. Scoring:
    - 1 point for each unique prime factor
    - 1 bonus point if the total itself is prime
    - 2 bonus points for the player with the largest prime factor each round
5. After scoring, all cards are returned to the deck, reshuffled, and a new round begins.
6. Play for a set number of rounds (e.g., 5 rounds) or until a player reaches a target score.

Example:

Your hand: 7♠, 4♥, 8♣, 2♦, 3♥

Total: $7 + 4 + 8 + 2 + 3 = 24$

Prime factorization: $24 = 2^3 \cdot 3$

Score:

- 2 points (for unique prime factors 2 and 3)
- 0 bonus points (24 is not prime)
- Possible 2 bonus points if 3 is the largest prime factor among all players

Total Score:_____

Challenge: Can you find a way to determine if you have the largest prime factor without seeing other players' hands?