

Name: _____ Date: _____

Story: You are an explorer who has discovered the hidden Fraction Fortress! The treasure room is locked by a magic door. To open it, you must follow the path of Equivalent Fractions.

A 4x5 grid of fraction boxes connected by horizontal and vertical lines with labels. The grid contains 20 fraction boxes and 40 connecting lines with labels. The fractions are: Row 1: $\frac{1}{2}$, $\frac{4}{5}$, $\frac{3}{4}$, $\frac{6}{8}$, $\frac{9}{12}$; Row 2: $\frac{3}{6}$, $\frac{15}{20}$, $\frac{5}{6}$, $\frac{10}{12}$, $\frac{12}{16}$; Row 3: $\frac{2}{4}$, $\frac{10}{25}$, $\frac{8}{20}$, $\frac{4}{10}$, $\frac{2}{5}$; Row 4: $\frac{8}{10}$, $\frac{20}{50}$, $\frac{12}{40}$, $\frac{6}{20}$, $\frac{3}{10}$. The connecting lines are labeled with letters: D, A, C, A (top); Y, C, Z, H, N (vertical); P, R, B, U (middle); O, I, O, D (bottom); S, E, T, I (bottom). The boxes are color-coded: orange (1/2, 8/10), light blue (3/6, 15/20, 5/6, 10/12, 12/16, 2/4, 10/25, 8/20, 4/10, 2/5, 12/40, 6/20, 3/10), pink (20/50), green (2/5), and blue (3/4, 12/16).



● VAULT 1 PATH

Starts at $\frac{1}{2}$ – the pink path. Follow only fractions equivalent to $\frac{1}{2}$.

Vault 1 Secret Word: _____

● VAULT 2 PATH

Starts at $\frac{3}{4}$ – the blue path. Follow only fractions equivalent to $\frac{3}{4}$.

Vault 2 Secret Word: _____

● VAULT 3 PATH

Starts at $\frac{2}{5}$ – the green path. Follow only fractions equivalent to $\frac{2}{5}$.

Vault 3 Secret Word: _____

The Final Prophecy

Combine your words from Vault 1, Vault 2, and Vault 3 to read the hidden message left behind by the ancient mathematicians:

" _____ / _____ / _____ / _____! "



Mission 2: Crack the Guard's Shields

To cross the drawbridge, you must fill in the missing numbers on the guards' shields so that every single shield is equivalent.

- Shield 1: $\frac{1}{4} = \frac{?}{8}$ ————— $> ? =$ _____
 - Shield 2: $\frac{3}{5} = \frac{9}{?}$ ————— $> ? =$ _____
 - Shield 3: $\frac{5}{6} = \frac{?}{24}$ ————— $> ? =$ _____
 - Shield 4: $\frac{7}{10} = \frac{70}{?}$ ————— $> ? =$ _____
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Mission 3: The Inventory Match-Up

Item Tag (Left)	Chest Lock (Right)
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A) $\frac{10}{12}$	————— 1) $\frac{1}{2}$
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B) $\frac{4}{16}$	————— 2) $\frac{5}{6}$
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C) $\frac{9}{18}$	————— 3) $\frac{3}{4}$
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D) $\frac{15}{20}$	————— 4) $\frac{1}{4}$
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Teacher Answer Key (For Your Eyes Only)

Vault 1 Decoding $\frac{1}{2}$

- Correct Path: $\frac{3}{6}$ (Y) $\rightarrow$ $\frac{2}{4}$ (O) $\rightarrow$ $\frac{8}{10}$ (U)
- Secret Word: YOU

Vault 2 Decoding $\frac{3}{4}$

- Correct Path: $\frac{6}{8}$ (C) $\rightarrow$ $\frac{9}{12}$ (A) $\rightarrow$ $\frac{12}{16}$ (N)
- Secret Word: CAN
- *False Path Info:* $\frac{5}{6}$ is not equivalent to $\frac{3}{4}$.

Vault 3 Decoding $\frac{2}{5}$

- Correct Path: $\frac{4}{10}$ (D) $\rightarrow$ $\frac{8}{20}$ (O) $\rightarrow$ $\frac{10}{25}$ (I) $\rightarrow$ $\frac{20}{50}$ (T)
- Secret Word: DO IT
- *False Path Info:* $\frac{3}{10}$ at the start is incorrect. $\frac{6}{20}$ and $\frac{12}{40}$ also simplify to $\frac{3}{10}$ (incorrect), but not $\frac{2}{5}$.

The Hidden Message

"YOU CAN DO IT!"



Mission 2: Guard's Shields

- **Shield 1: 2** (Multiply top and bottom by 2)
 - **Shield 2: 15** (Multiply top and bottom by 3)
 - **Shield 3: 20** (Multiply top and bottom by 4)
 - **Shield 4: 100** (Multiply top and bottom by 10)
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Mission 3: Inventory Match-Up

- **Tag A balances with lock 2** ($\frac{10}{12}$ simplifies to $\frac{5}{6}$)
 - **Tag B balances with lock 4** ($\frac{4}{16}$ simplifies to $\frac{1}{4}$)
 - **Tag C balances with lock 1** ($\frac{9}{18}$ simplifies to $\frac{1}{2}$)
 - **Tag D balances with lock 3** ($\frac{15}{20}$ simplifies to $\frac{3}{4}$)
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