

Puzzle of the Week

Fractions – 6

THE CHALLENGE: Use the numbers 1 to 9 at most once each to fill in these boxes. How many solutions can you find?

$$\frac{\square}{\square} + \frac{\square}{\square} = \square$$

1 2 3 4 5 6 7 8 9

EXPLORATION: Are there any single-digit values for the right side of the equation that are impossible?



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Fractions – 6 – Notes

THE CHALLENGE:

Some trial an error with compatible denominators produces this list:

- $2/4 + 3/6 = 1$
- $3/4 + 2/8 = 1$
- $3/6 + 4/8 = 1$
- $4/6 + 3/9 = 1$
- $4/3 + 6/9 = 2$
- $5/4 + 6/8 = 2$
- $9/6 + 4/8 = 2$
- $5/2 + 4/8 = 3$
- $9/4 + 6/8 = 3$
- $2/1 + 6/3 = 4$
- $5/2 + 9/6 = 4$
- $7/2 + 3/6 = 4$
- $2/1 + 9/3 = 5$
- $3/1 + 4/2 = 5$
- $3/1 + 8/4 = 5$
- $4/2 + 9/3 = 5$
- $6/2 + 8/4 = 5$
- $7/2 + 6/4 = 5$
- $7/2 + 9/6 = 5$
- $9/2 + 3/6 = 5$
- $9/2 + 4/8 = 5$
- $9/3 + 8/4 = 5$
- $3/1 + 8/2 = 7$
- $4/1 + 6/2 = 7$
- $4/1 + 9/3 = 7$
- $5/1 + 6/3 = 7$
- $5/1 + 4/2 = 7$
- $5/1 + 8/4 = 7$
- $9/3 + 8/2 = 7$
- $5/1 + 6/2 = 8$
- $5/1 + 9/3 = 8$
- $6/1 + 4/2 = 8$
- $5/1 + 8/2 = 9$
- $7/1 + 4/2 = 9$
- $7/1 + 6/3 = 9$
- $7/1 + 8/4 = 9$

EXPLORATION: 6 has no solutions.