

Discussion Problems

Step 7: Subtract 2 Fractions

National Curriculum Objectives:

Mathematics Year 4: (4F4) [Add and subtract fractions with the same denominator](#)

About this resource:

This resource has been designed for pupils who understand the concepts within [this step](#). It provides pupils with more opportunities to enhance their reasoning and problem solving skills through more challenging problems. Pupils can work in pairs or small groups to discuss with each other about how best to tackle the problem, as there is often more than one answer or more than one way to work through the problem.

There may be various answers for each problem. Where this is the case, we have provided one example answer to guide discussion.

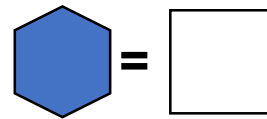
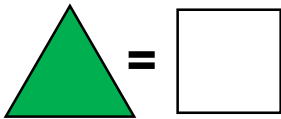
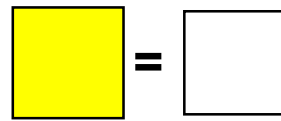
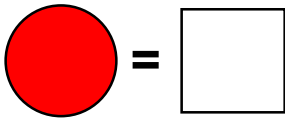
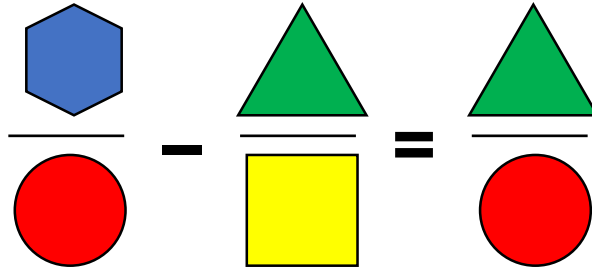
We recommend self or peer marking using the answer page provided to promote discussion and self-correction.

More [Year 4 Fractions](#) resources.

Did you like this resource? Don't forget to [review](#) it on our website.

Subtract 2 Fractions

1. What could the value of each shape be?



DP

2. Play the game with a partner following the rules below.

Dicey Fractions

Aim

To be the first player to reach a number less than one by subtracting fractions created by rolling the dice.

Rules

1. Each player starts with $\frac{48}{12}$.
2. Player One rolls two dice. They select which of the dice they want to be the numerator and the denominator. If 1 is rolled, the dice must be re-rolled.
3. The player subtracts the fraction from their remaining total. The fraction being subtracted may be converted to an equivalent fraction.
4. Play then passes to Player Two who repeats rules 2-4.
5. The winner is the first person to reach a fraction less than one.



Discuss how your strategy will change if you use dice with different a different number of sides.

DP

Subtract 2 Fractions

1. What could the value of each shape be?

$$\begin{array}{c} \text{Hexagon} \\ \hline \end{array} - \begin{array}{c} \text{Triangle} \\ \hline \end{array} = \begin{array}{c} \text{Triangle} \\ \hline \end{array} - \begin{array}{c} \text{Circle} \\ \hline \end{array}$$

Various answers, for example:

$$\text{Circle} = \boxed{24}$$

$$\text{Square} = \boxed{2}$$

$$\text{Triangle} = \boxed{1}$$

$$\text{Hexagon} = \boxed{13}$$

DP

2. Play the game with a partner following the rules below.

Dicey Fractions

Aim

To be the first player to reach a number less than one by subtracting fractions created by rolling the dice.

Rules

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4. Play then passes to Player Two who repeats rules 2-4.
5. The winner is the first person to reach a fraction less than one.

Various possible outcomes, for example: $\frac{48}{12} - \frac{6}{3} - \frac{4}{4} - \frac{2}{4} = \frac{1}{2}$

Discuss how your strategy will change if you use dice with different a different number of sides. **A dice with more sides would allow for a larger numerator with a smaller denominator so that the game could be won faster.**

DP