

# Discussion Problems

## Step 10: Multiply Fractions by Integers

Teaching note: For Q1, an A3 copy on card and scissors may be necessary. Children may need help constructing the spinner.

### National Curriculum Objectives:

Mathematics Year 6: (6F2) [Use common factors to simplify fractions; use common multiples to express fractions in the same denomination](#)

Mathematics Year 6: (6F3) [Compare and order fractions, including fractions  \$> 1\$](#)

Mathematics Year 6: (6F4) [Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions](#)

Mathematics Year 6: (6F11) [Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts](#)

### 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.

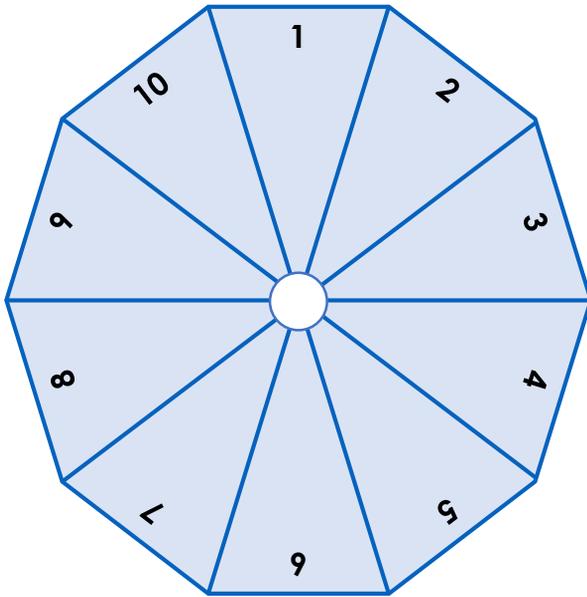
We recommend self or peer marking using the answer page provided to promote discussion and self-correction.

More [Year 6 Fractions](#) resources.

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

# Multiply Fractions by Integers

1. With a friend, take it in turns to spin the spinner below. After each spin, put the digit into one of the missing numbers in the calculation. Once all of the missing number boxes are filled, work out the answer.



Player 1

$$\begin{array}{|c|} \hline \square \\ \hline \square \\ \hline \end{array} \times \square = \begin{array}{|c|} \hline \square \\ \hline \square \\ \hline \end{array}$$

Player 2

$$\begin{array}{|c|} \hline \square \\ \hline \square \\ \hline \end{array} \times \square = \begin{array}{|c|} \hline \square \\ \hline \square \\ \hline \end{array}$$

The person with the greatest total is the winner!

DP

2. Tom is saving up his pocket money for his next school trip.



Tom

I get £10 pocket money a week. I only want to save part of this each week until I have between £35 and £40 for my school trip.



Tom only wants to save whole pounds each week. Explore the different amounts that Tom could save, and how many weeks it would take to save that amount so that the total saved is between £35 and £40.

Number of Weeks

$$\begin{array}{|c|} \hline \square \\ \hline \square \\ \hline \end{array}$$

Number of Pounds

$$\square$$

**x**

**=**

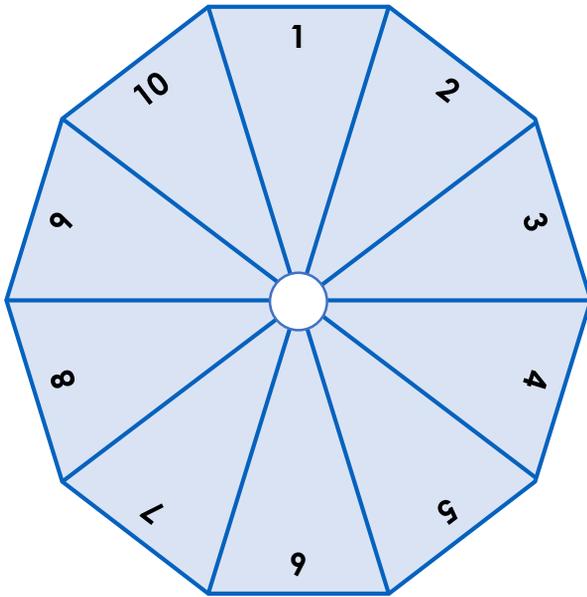
Total Saved

$$\square$$

DP

# Multiply Fractions by Integers

1. With a friend, take it in turns to spin the spinner below. After each spin, put the digit into one of the missing numbers in the calculation. Once all of the missing number boxes are filled, work out the answer.



Player 1

$$\begin{array}{|c|} \hline 2 \\ \hline \hline 9 \\ \hline \end{array} \times \begin{array}{|c|} \hline 5 \\ \hline \end{array} = \begin{array}{|c|} \hline 10 \\ \hline \hline 9 \\ \hline \end{array}$$

Player 2

$$\begin{array}{|c|} \hline 3 \\ \hline \hline 6 \\ \hline \end{array} \times \begin{array}{|c|} \hline 2 \\ \hline \end{array} = \begin{array}{|c|} \hline 6 \\ \hline \hline 6 \\ \hline \end{array}$$

The person with the greatest total is the winner!

Various possible answers. In the example shown above, player 1 is the winner as their fraction is the largest.

DP

2. Tom is saving up his pocket money for his next school trip.



Tom

I get £10 pocket money a week. I only want to save part of this each week until I have between £35 and £40 for my school trip.



Tom only wants to save whole pounds each week. Explore the different amounts that Tom could save, and how many weeks it would take to save that amount so that the total saved is between £35 and £40.

Number of Weeks

$$\begin{array}{|c|} \hline 4 \\ \hline \hline 1 \\ \hline \hline 2 \\ \hline \end{array}$$

x

Number of Pounds

$$\begin{array}{|c|} \hline 8 \\ \hline \end{array}$$

=

Total Saved

$$\begin{array}{|c|} \hline \text{£}36 \\ \hline \end{array}$$

Various answers, one example is shown above.

DP