

Discussion Problems

Step 18: Multiply Mixed Numbers by Integers

National Curriculum Objectives:

Mathematics Year 5: (5F5) [Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams](#)

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 5 Fractions](#) resources.

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

Multiply Mixed Numbers by Integers

1. Joy is going on holiday and has left a note for Nellie with instructions for looking after her three horses while she is away.

Unfortunately, it has fallen on the floor and someone has trodden on it with their muddy boot!

1. I have left you 13 bales of hay for each day.

2. Each of the 3 horses needs bales of hay a day.



Nellie remembers that the total of the digits in the mixed number add up to the total number of hay bales that Joy has left for each day.

Investigate the possible mixed number of hay bales each horse needs.

DP

2. With a partner, play the game below.

$2\frac{4}{10}$	$3\frac{3}{12}$	$4\frac{5}{7}$	$2\frac{12}{16}$
$5\frac{5}{8}$	$2\frac{12}{15}$	$3\frac{7}{10}$	$4\frac{6}{12}$
$3\frac{9}{16}$	$4\frac{6}{7}$	$2\frac{8}{12}$	$5\frac{8}{10}$
$4\frac{4}{6}$	$5\frac{5}{10}$	$2\frac{6}{8}$	$4\frac{10}{15}$

How to play

Roll the dice to get your integer.

To win, create a path of 4 in a row by multiplying the mixed number by the number rolled on the dice.

If you roll a one, you miss your turn!



DP

Multiply Mixed Numbers by Integers

1. Joy is going on holiday and has left a note for Nellie with instructions for looking after her three horses while she is away.

Unfortunately, it has fallen on the floor and someone has trodden on it with their muddy boot!

1. I have left you 13 bales of hay for each day.
2. Each of the 3 horses needs bales of hay a day.



Nellie remembers that the total of the digits in the mixed number add up to the total number of hay bales that Joy has left for each day.

Investigate the possible mixed number of hay bales each horse needs.

Various answers, for example: $4\frac{2}{7}$

DP

2. With a partner, play the game below.

Various answers depending on dice rolled, for example: $2\frac{4}{10} \times 4 = 9\frac{3}{5}$

$2\frac{4}{10}$	$3\frac{3}{12}$	$4\frac{5}{7}$	$2\frac{12}{16}$
$5\frac{5}{8}$	$2\frac{12}{15}$	$3\frac{7}{10}$	$4\frac{6}{12}$
$3\frac{9}{16}$	$4\frac{6}{7}$	$2\frac{8}{12}$	$5\frac{8}{10}$
$4\frac{4}{6}$	$5\frac{5}{10}$	$2\frac{6}{8}$	$4\frac{10}{15}$

How to play

Roll the dice to get your integer.

To win, create a path of 4 in a row by multiplying the mixed number by the number rolled on the dice.

If you roll a one, you miss your turn!



DP