Discussion Problems
Step 17: Multiply Non-Unit Fractions by an Integer

National Curriculum Objectives:

Mathematics Year 5: (5F5) Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams
Mathematics Year 5: (5F2a) Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number [for example, 2/5 + 4/5 = 6/5 = 1 1/5]
Mathematics Year 5: (5F2b) Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths

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.

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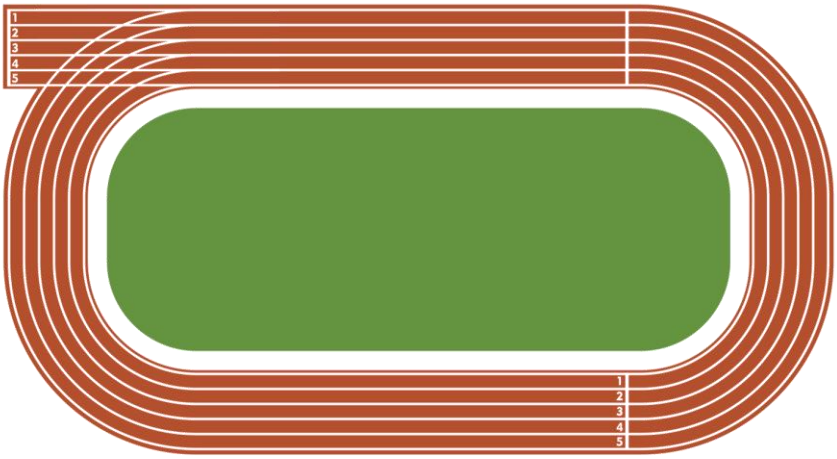
Multiply Non-Unit Fractions by an Integer

1. In a week, Francis ran $3\frac{1}{2}$ laps around the running a track.

The fraction of the track he ran was a non-unit fraction. He ran the same distance each time.



$\square \times \square = 3\frac{1}{2}$

Investigate the fraction of the track he could have run and the number of days he ran in the week.

DP

2. With a partner, roll the dice to work your way around the board game.

START	$\frac{3}{8} \times 4$	$\frac{5}{6} \times 2$	$\frac{8}{14} \times 2$	$\frac{9}{12} \times 3$	$\frac{7}{10} \times 5$
					$\frac{4}{9} \times 3$
$\frac{5}{6} \times 3$	$\frac{5}{9} \times 6$	$\frac{3}{10} \times 6$	$\frac{6}{14} \times 4$	$\frac{5}{8} \times 2$	$\frac{7}{12} \times 3$
$\frac{9}{16} \times 2$					
$\frac{5}{12} \times 4$	$\frac{11}{14} \times 2$	$\frac{11}{16} \times 2$	$\frac{7}{9} \times 3$	$\frac{10}{16} \times 4$	

RULES

If you get the calculation wrong, move one step back.

If you get the calculation correct, move one step forwards.

You must give your answers in their simplest form.

DP

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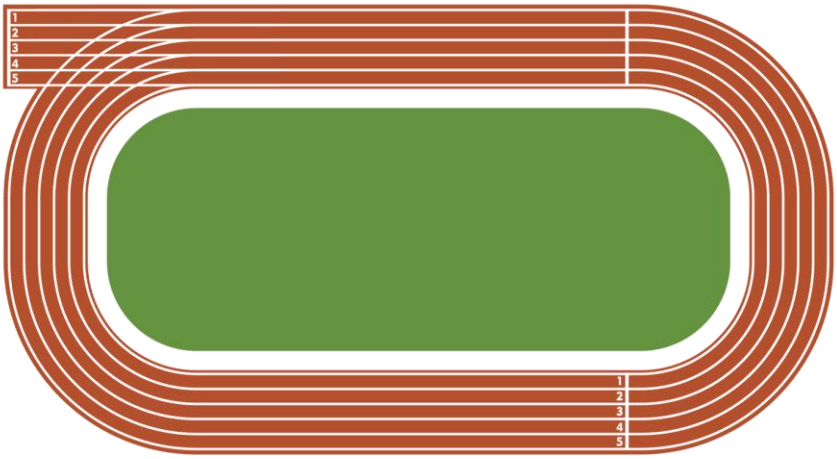
Multiply Non-Unit Fractions by an Integer

1. In a week, Francis ran $3\frac{1}{2}$ laps around the running a track.

The fraction of the track he ran was a non-unit fraction. He ran the same distance each time.

Various answers, for example:



$\frac{7}{8} \times 4 = 3\frac{1}{2}$

Investigate the fraction of the track he could have run and the number of days he ran in the week.

DP

2. With a partner, roll the dice to work your way around the board game.

START	$1\frac{1}{2}$	$1\frac{2}{3}$	$1\frac{1}{7}$	$2\frac{1}{4}$	$3\frac{1}{2}$
					$1\frac{1}{3}$
$2\frac{1}{2}$	$3\frac{1}{3}$	$1\frac{4}{5}$	$1\frac{5}{7}$	$1\frac{1}{4}$	$1\frac{3}{4}$
$1\frac{1}{8}$					
$1\frac{2}{3}$	$1\frac{4}{7}$	$1\frac{3}{8}$	$2\frac{1}{3}$	$2\frac{1}{2}$	

RULES

If you get the calculation wrong, move one step back.

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You must give your answers in their simplest form.

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