

About This Resource

This resource is aimed at Year 6 Secure and has been designed to give children the opportunity to consolidate the skills they have learned in Autumn Block 3 Fractions.

The questions are based on a selection of the same ‘small steps’ that are addressed in the block, but are presented in a different way so children can work through the pack independently and demonstrate their understanding and skills.

Small Steps

Simply Fractions

- Fractions on a number line
- Compare and order fractions by denominator
- Compare and order fractions by numerator
- Add and subtract fractions
- Mixed addition and subtraction problems
- Multiply fractions by a whole number
- Divide fraction by a whole number
- Four rules with fractions
- Fraction of an amount
- Fraction of an amount – find the whole

National Curriculum Objectives

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

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

Mathematics Year 6: [Generate and describe linear number sequences \(with fractions\)](#)

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

Mathematics Year 6: [Multiply simple pairs of proper fractions, writing the answer in its simplest form \[for example, \$1/4 \times 1/2 = 1/8\$ \]](#)

Mathematics Year 6: [Divide proper fractions by whole numbers \[for example, \$1/3 \div 2 = 1/6\$ \]](#)

Mathematics Year 6: [Associate a fraction with division and calculate decimal fraction equivalents \[for example, 0.375\] for a simple fraction \[for example, 3/8\]](#)

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

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

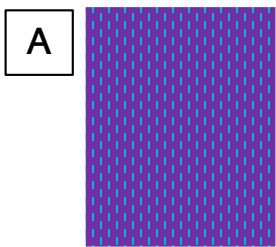
Reasoning and Problem Solving – Fractions Consolidation – Year 6



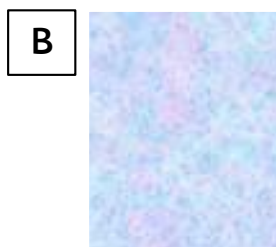
The school have had a large donation of money to renovate an empty classroom. School Council decided it should be a Year 6 Common Room; somewhere for the year 6 children to relax and enjoy each other's company on wet breaks, and for after school clubs. There is a rumour, if it is done well, there might even be a youth club opening with a DJ booked every Friday night!

You and some friends have volunteered to help out, who knew there were so many maths calculations involved in decorating?

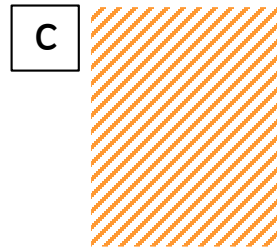
1. You need a consensus to agree the decorating plans and each year 6 class takes a vote. The results are given in fractions below:



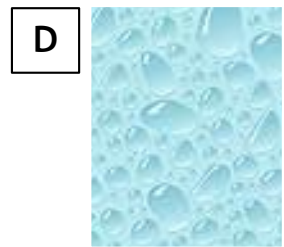
$$\frac{10}{30}$$



$$\frac{2}{30}$$



$$\frac{6}{30}$$



$$\frac{12}{30}$$

Which wallpaper wins the votes?

2. There are 3 walls to paint, each wall needs $\frac{4}{5}$ of a pot of paint to give it two coats. A parent has donated 4 paint pots from her garage, each pot is $\frac{3}{4}$ full.

Will this be enough paint to finish the painting? Explain your answer.



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3. You and your friends have lots to do and have made lists to make sure nothing is forgotten! Look at the lists below. Write the fraction of jobs still to do below each list.

Joe
~~Clean walls~~
~~Buy brushes~~
~~Cover floors~~
 Get pots
 Paint walls
 Buy ribbon

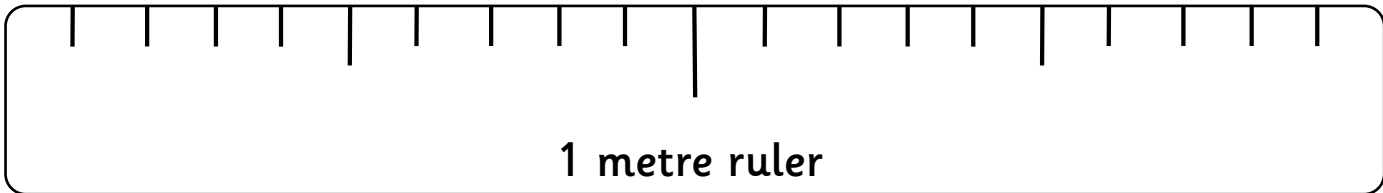
Kayla
~~Buy paste~~
~~Get tables~~
 Choose chairs
 Meet teachers
 Find DJ

Jemima
~~Clear cupboards~~
~~Take to charity~~
 Plan party
~~Buy material~~
~~Make curtains~~
~~Hang curtains~~
 Make treats

Who has the biggest fraction of their work still to do?

4. There are two windows in the room that need curtains. The first needs $\frac{3}{5}$ of a metre, the second needs $\frac{8}{10}$ of a metre. Tick the box on the ruler which shows the two places where you would need to cut the fabric.

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1 metre ruler



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5. The carpet layer has sent his bill, he spent $2\frac{5}{10}$ hours cutting the carpet and laying the grippers and $4\frac{2}{3}$ hours laying the carpet.

He has charged the school for 7 hours 15 mins is the charge correct?

Explain your answer.

6. Now the carpet is down the furniture has to be ordered! There needs to be 4 chairs along one wall. The chairs measure $\frac{1}{3}$ of a metre in width and need $\frac{1}{2}$ of a metre between each chair to fit a table.

Will they fit on a wall measuring $3\frac{4}{6}$ metres? Explain your answer.



You have material $2\frac{1}{2}$ metres long and to cover the seats of 5 chairs, will you have enough fabric for each chair to have at least $\frac{1}{3}$ a metre of fabric? Explain your answer.

7. You have spent $\frac{3}{4}$ of your budget which was originally £160, how much is left for other decorations?



8. You have ordered a 24kg bag of flour for making buns for the opening ceremony, Jamal used $\frac{3}{8}$ of it for making biscuits do you have enough left for your recipe which needs 4kg of flour? Explain your answer.



9. Your buns were a hit! You made 40, but when you left them in the kitchen, the workers ate $\frac{3}{5}$ of them, how many are left?



10. You sent out 56 invites to your opening. 19 said they couldn't come, 5 said they were already busy and 32 are planning to attend. What fraction of your original guest list are coming (in simplest form)?



- D
- Yes. $3 \times \frac{4}{5} = 2 \frac{4}{5}$ required. 4 paint pots that are $\frac{3}{4}$ full = 3 pots

3.

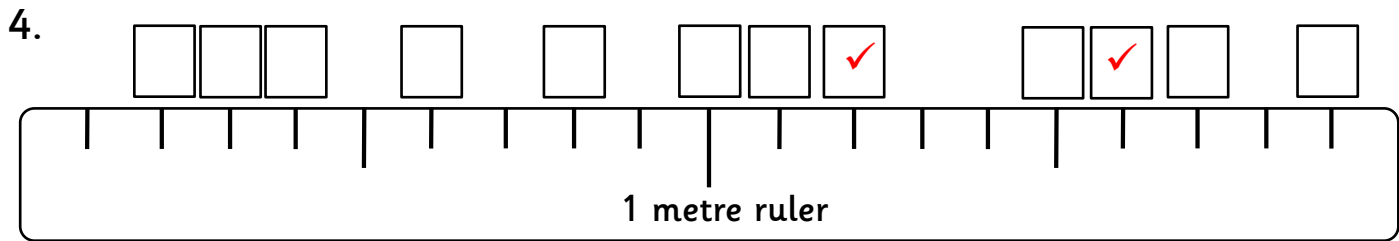
3
6

3
5

1
7

Kayla has the most to do.

Joe: $\frac{105}{210}$ Kayla: $\frac{126}{210}$ Jemima: $\frac{30}{210}$



- The quote is 5 minutes too much. The carpet layer worked $7 \frac{1}{6}$ hours in total which is 7 hours 10 mins. $4 \frac{2}{3} + 2 \frac{5}{10}$:

$$4 + 2 = 6; \frac{2}{3} + \frac{5}{10} = \frac{20}{30} + \frac{15}{30} = \frac{35}{30} = \frac{7}{6} = 1 \frac{1}{6}; 6 + 1 + \frac{1}{6} = 7 \frac{1}{6}$$

- The chairs and tables will fit. The chairs take up $1 \frac{1}{3}$ metres, the table space needed is $1 \frac{1}{2}$. This is $2 \frac{5}{6}$ altogether so less than the space available.

There is enough material: $\frac{1}{3} \times 5 = 1 \frac{2}{3}$

- £40. 160 divided by 4 = 40. $40 \times 3 = 120$. $160 - 120 = 40$

- Jamal used 9kg (24kg divided by 8 = 3, $3 \times 3 = 9$ kg), leaving 15kg (24kg – 9kg = 15kg), so there is enough to make the buns.

- 16 buns left (40 divided by 5 = 8. $8 \times 3 = 24$. $40 - 24 = 16$)

- $19 + 5 = 24$ are not attending.

$$32 \text{ are attending} = \frac{32}{56}$$

$$32 \text{ divided by } 8 = 4$$

$$56 \text{ divided by } 8 = 7$$

$$= \frac{4}{7}$$