THIRD SPACE LEARNING

Maths Intervention Pack

Fractions
Finding fractions of an amount

Year 4

How to use the resources

1. Cover Slide
   Use this slide to activate prior knowledge needed for lesson. Pupils should be encouraged to initially attempt the question presented independently.

2. Let's Learn
   Use this slide to introduce the concept. Tutors should work with the pupil to explore the concept together, usually using diagrams to support understanding.

3. Follow Me/ Your Turn
   The tutor should work through the follow me slide, modelling the process and explaining their thinking out loud.
   Pupils should use the your turn slide as an opportunity to solve a very similar question to the follow me question. They should apply the method modelled by the tutor in the follow me slide. Pupils should be encouraged to explain their thinking out loud.

4. You Do
   Pupils should work through a range of questions that build in complexity. Tutors can offer support but pupils should initially be encouraged to attempt these questions independently.

5. Go Further
   Use this slide to allow pupils to apply their understanding to a more challenging question in an unfamiliar context.

6. Support
   The support slide is used to support pupils during the lesson. In the tutor notes, there will be guidance as to when to use the support slide.

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Tutor / Teacher / TA notes

Key mathematical ideas:

- To know how to divide a whole by a given number.
- To understand how to use one part to find non-unit fractions of amounts.
- To find a fraction of a monetary amount.

Terminology:

- Denominator: The bottom number in a fraction. Shows how many equal parts the item is divided into.
- Numerator: The top number in a fraction. Shows how many parts we have.
- Unit fraction: A fraction where the top number (the "numerator") is 1.
- Equal: Exactly the same amount or value.
- Bar model: A way to pictorially represent a problem using proportionally sized bars.

Common misconceptions:

- When finding a fraction of an amount, pupils dividing by the numerator and multiplying by the denominator.
- When finding a fraction of an amount, pupils writing the answer as a fraction when it is a whole number.
- Pupils only identifying one part of the whole.

Slide 1: Cover Slide

If stuck

Identify that the bar model shows 24 as the whole with three equal parts below. If they divide 24 by 3, they can complete the parts on the bar model.

Answers

16

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Slide 2: Let's Learn

If stuck

Refer to the support slide that shows how to find $\frac{3}{5}$ of 40 using objects.

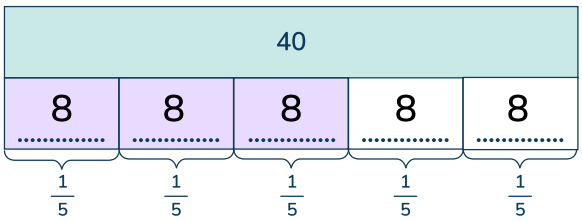
Questions

What does the numerator show? (How many parts of the whole we need to find - note that the yellow lozenge explains what the denominator shows.)

Answers

a) 40 ÷ 5 = 8

Each part is worth 8



b) $\frac{1}{5}$ of 40 = 8

$\frac{3}{5}$ of 40 = 3 x 8 = 24

Slide 3: Follow Me

Modelling Prompts

Remind pupils you are dividing by 9 as the denominator is 9.

Draw attention to the original fraction being $\frac{4}{9}$ so we need to find 4 of the equal parts.

Answers

a) 7

Each part labelled with 7

b) $\frac{1}{9}$ of 63 = 7

$\frac{4}{9}$ of 63 = 7 x 4 = 28

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Slide 3: Your Turn

Questions

Does the numerator or denominator tell you how many parts to divide the whole into? (the denominator)

Answers

a) $56 \div 8 = 7$

Each part labelled with 7

b) $\frac{1}{8}$ of $56 = 7$

$\frac{5}{8}$ of $56 = 7 \times 5 = 35$

Slide 4: You Do

If stuck

a) Remind pupils to divide the whole into 5 equal parts then multiply one of the equal parts by 2 (or add two equal parts).

Use the bar model to help.

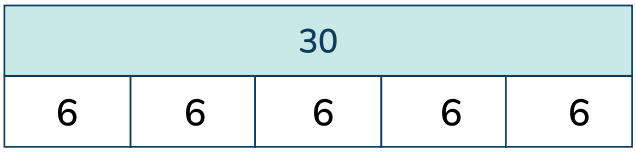
Questions

What do you need to do first? (Divide the whole by the denominator)

What do you need to do next? (Multiply one of the parts by the numerator)

Answers

a) 12



b) 16

c) 28

d) 35

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Slide 5: Go Further

If stuck

Encourage pupils to draw a bar model to help them visualise the problem.

Questions

Does the way you find a fraction of an amount change when finding a fraction of money? (No, the process is the same. The difference is the answer will be in pounds or pence.)

Answers

£10

Slide 6: Support

Support for the Let's learn slide. Use this to help pupils make the link to dividing objects.

If stuck

Put the question into a context the pupil will find more relatable. E.g. You have 40 cubes. You use $\frac{3}{5}$ of them to make a model. How many do you use?

Questions

Why have I divided the whole into 5 equal parts? (The denominator is 5. We divide the whole amount into the number of equal parts shown by the denominator.)

Answers

a) 8

b) 8

c) 24

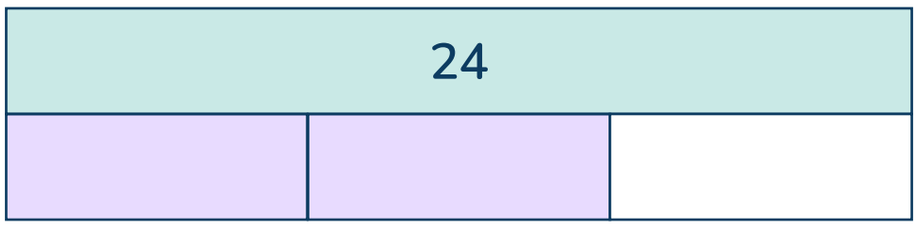
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Today you will learn about

Finding fractions of an amount

Warm up question

Find $\frac{2}{3}$ of 24 using the bar model to help you.



Let's learn

When finding a fraction of a quantity, we need to divide the whole into equal parts.

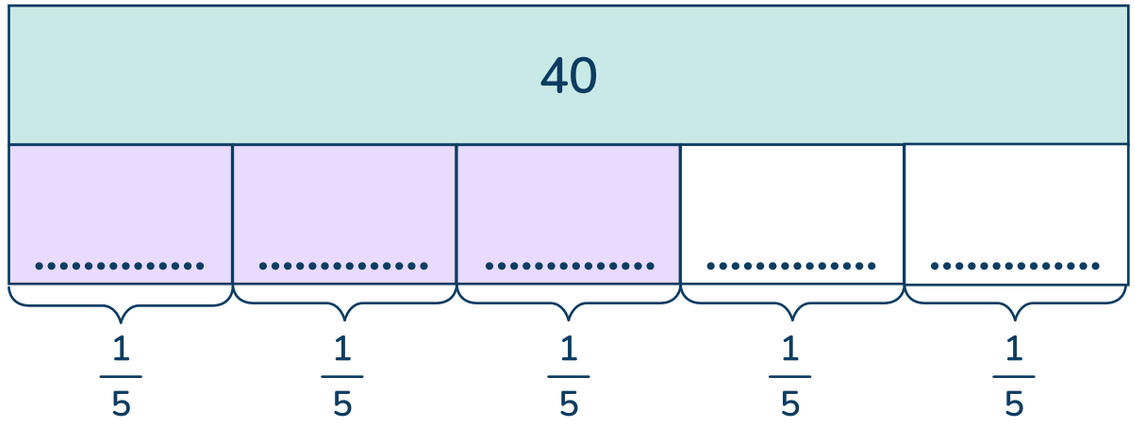
Find $\frac{3}{5}$ of 40

First, the whole quantity needs to be divided into in equal parts.

a As the denominator is 5, we divide 40 by 5.

$40 \div 5 =$ .....

Each part is worth .....



The denominator shows how many equal parts to divide the whole into.

b Each part of the bar model is $\frac{1}{5}$ of the whole.

$\frac{1}{5}$ of 40 = ...

So $\frac{3}{5}$ of 40 = 3 x ..... = ...

Follow me

Let's find $\frac{4}{9}$ of 63

a Find $\frac{1}{9}$ of 63 by dividing 63 by 9

63 ÷ 9 = ...

63								
.....	.....	.....	.....	.....	.....	.....	.....	.....

b We want 4 equal parts or $\frac{4}{9}$ of 63

$\frac{1}{9}$ of 63 = ...

So $\frac{4}{9}$ of 63 = ... x 4 = ...

Your turn

Find $\frac{5}{8}$ of 56

a Find $\frac{1}{8}$ of 56 by dividing 56 by 8

56 ÷ 8 = ...

56							
.....	.....	.....	.....	.....	.....	.....	.....

b We want 5 equal parts or $\frac{5}{8}$ of 56

$\frac{1}{8}$ of 56 = ...

So $\frac{5}{8}$ of 56 = ... x 5 = ...

You do

a Find $\frac{2}{5}$ of 30 = ...

30				

b Find $\frac{4}{7}$ of 28 = ...

c Find $\frac{7}{10}$ of 40 = ...

d Find $\frac{5}{6}$ of 42 = ...

You can use a bar model to help you.

Go further

Janice has £12.

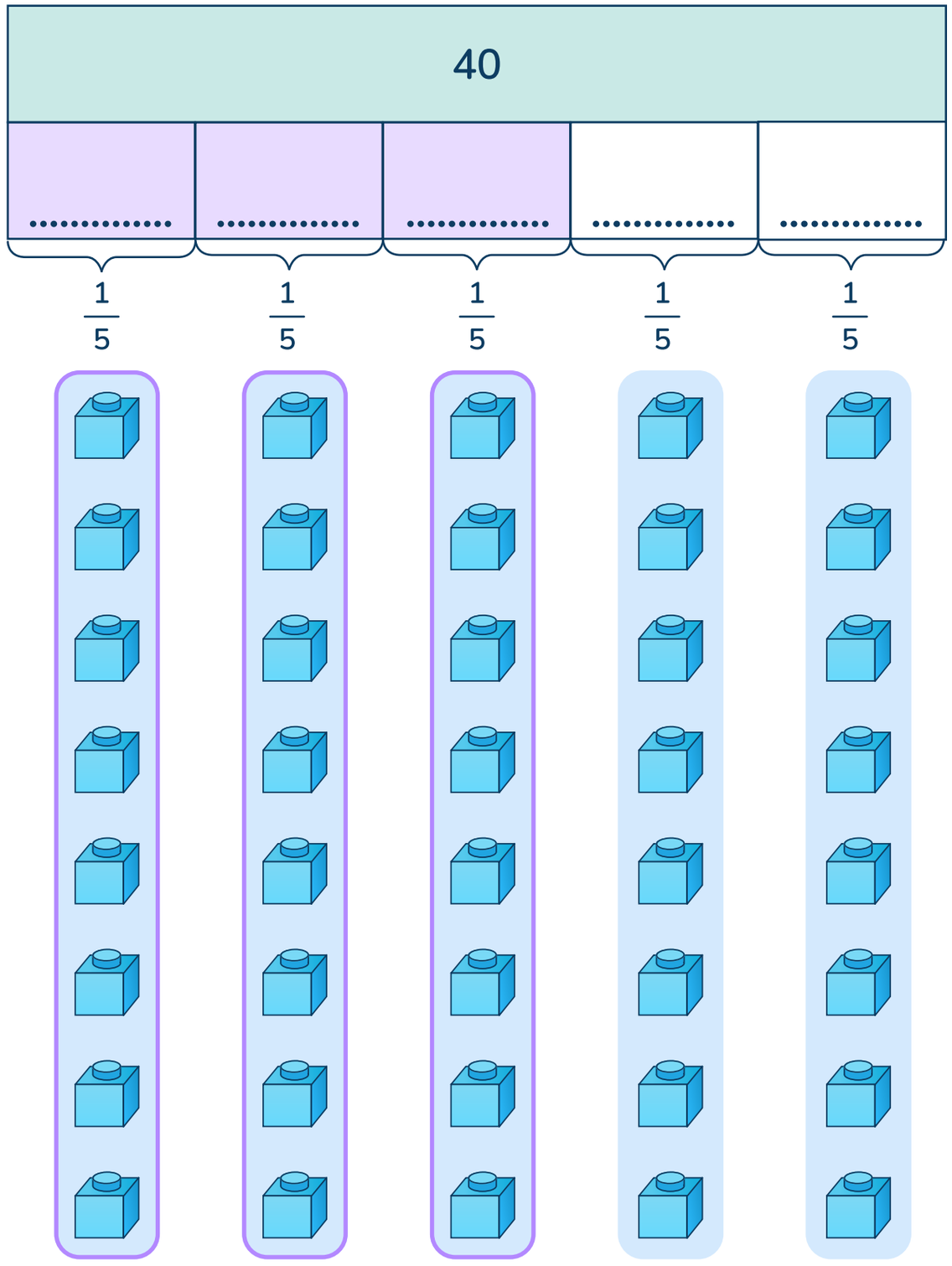
She spends $\frac{5}{6}$ of her money.

How much has she spent? .....

Support

Let's look at finding $\frac{3}{5}$ of 40 using objects.

To find one fifth of 40, we need to divide 40 into 5 equal groups.



a There are ..... cubes in each group.

b $\frac{1}{5}$ of 40 is .....

c $\frac{3}{5}$ of 40 is .....

Do you have a group of pupils who need a boost in maths this term?

Each pupil could receive a personalised lesson every week from our specialist 1-to-1 maths tutors.

- Raise attainment
- Plug any gaps or misconceptions
- Boost confidence

Speak to us

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