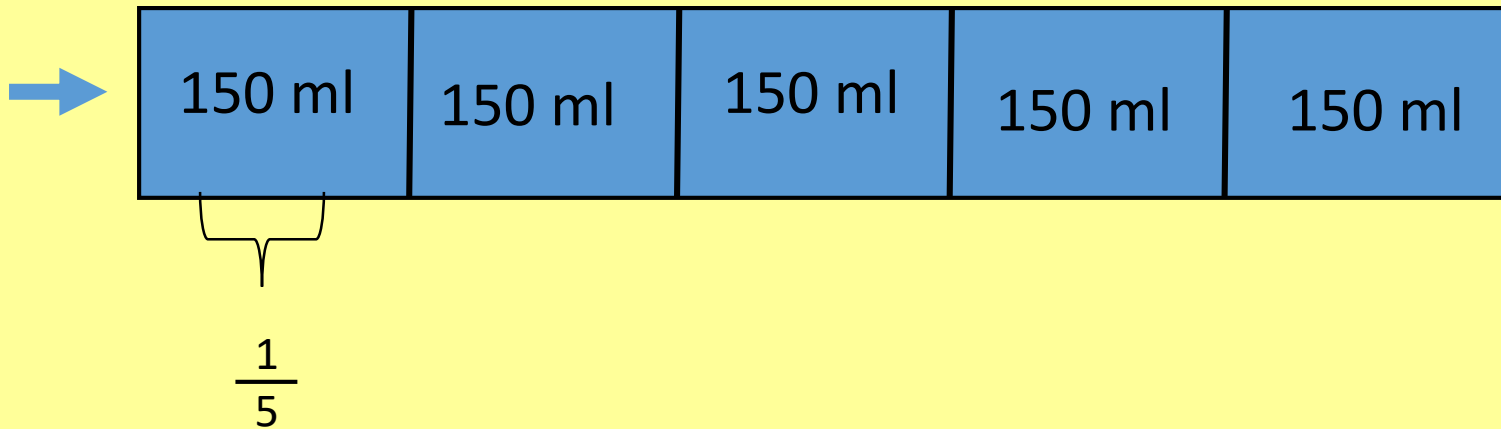| Key Vocabulary |
| --- |
| numerator |
| denominator |
| unit fraction |
| non-unit fraction |
| equivalent |
| quantities |
| whole |
| halves |
| thirds |
| quarters |
| fifths |
| sixths |
| sevenths |
| eighths |
| ninths |
| tenths |
| elevenths |
| twelfths |
| quantities |

07.05.20

I can solve problems involving increasingly harder fractions.

Solving fraction word problems using bar models:

Jack has a bottle of lemonade. He has one-fifth left in the bottle. There are 150 ml left. How much lemonade was in the bottle when it was full?

First I split my whole bar into fifths →

| 150 ml | 150 ml | 150 ml | 150 ml | 150 ml |

$$\frac{1}{5}$$

So if I know one I can work out how much was in the bottle to begin with by adding the fifths together – 150 + 150 + 150 + 150 + 150 = 750

Or I can also multiply 150 x 5 = 750

Your Turn to try:

A school kitchen buys a bag of carrots. They use 1/5 of the bag of carrots for lunch. They had used 50 carrots. How many carrots was in the bag to begin with?
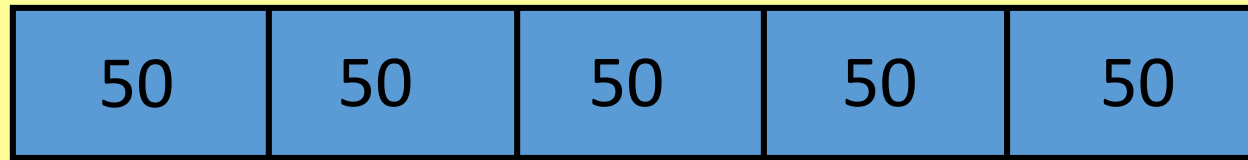
What do you do first?

What do I already know?

How do you find out what our whole number is?

Check your working out and answer:

Step 1 : split my whole bar into fifths.

50	50	50	50	50

Step 2: I know 1/5 = 50 carrots

Step 3: add or multiply the fifths together to work out the whole
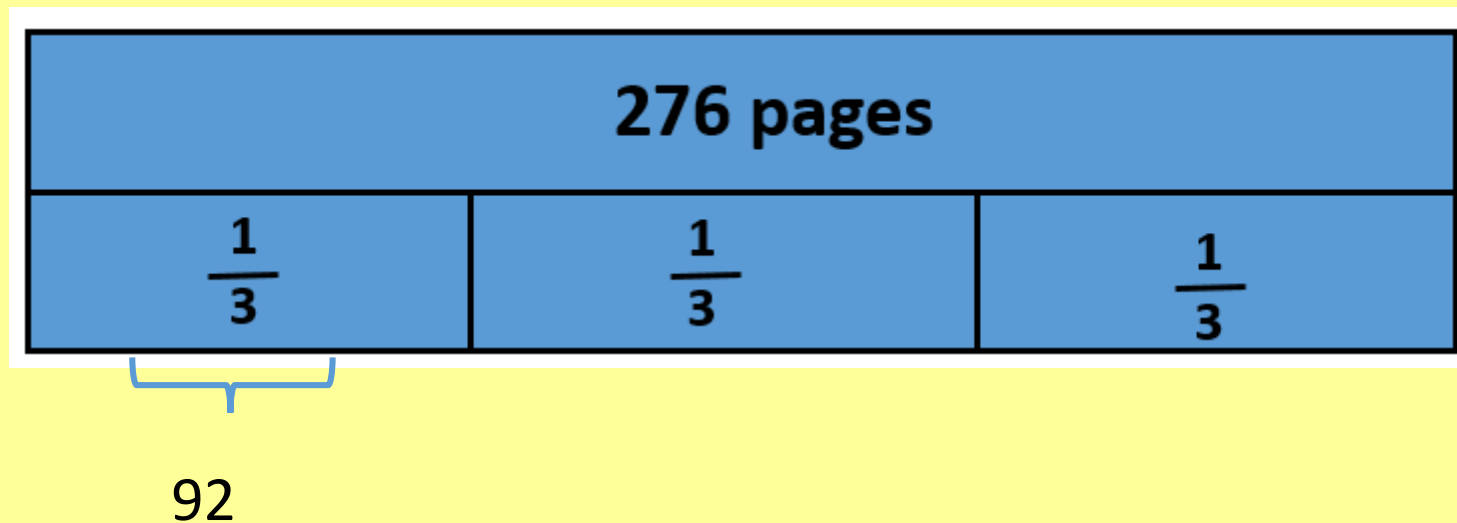
50 + 50 + 50 + 50 + 50 = 250 carrots

50 x 5 = 250 carrots

Harder questions:

A book has 276 pages. Miss Thomas read $\frac{1}{3}$ of the book. How many pages does she have left?

This time I know my whole but not my parts.

276 pages		
$\frac{1}{3}$	$\frac{1}{3}$	$\frac{1}{3}$

92

So now I need to work out 1/3 of 276.

276 ÷ 3 = 92   I divided 276 by 3 because I have 3 equal parts.

276 – 92 = 184 which means that Miss Thomas has 184 pages left of the book.

Top tips for solving these word problems:

- Split your whole bar into the amount represented by the denominator.

- Fill in the information you do know.

- Work out what you need to find out.

Activities – use bar models to help you solve these questions:

1. Sarah has a bottle of water. She has one-sixth left in the bottle. There are 120ml left. How much water was in the bottle when it was full?

2. A book has 355 pages. Anna reads 1/5 of the book. How many pages does she have left to read?

3. Sam has 90 bricks.

   He uses $\frac{3}{5}$ of them to build a tower.

   Grace has 120 bricks.

   She uses $\frac{5}{6}$ of them to build a tower.

   How many bricks are left over altogether?

4. Annie had 36 sweets.
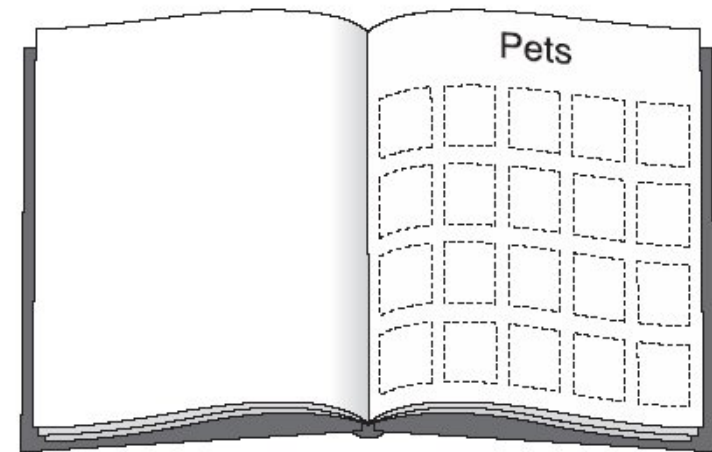
   She ate $\frac{2}{3}$ of them.

   Ben had 40 sweets.

   He ate $\frac{1}{5}$ of them.

   How many more sweets did Annie eat than Ben?

5. Meg has 20 pet stickers to go on this page.

   Pets

   $\frac{1}{4}$ of them are dog stickers.

   $\frac{1}{2}$ of them are cat stickers.

   The rest are rabbit stickers.

   How many rabbit stickers does she have?